



INSTITUTE FOR DEFENSE ANALYSES

**Analyses of Military Healthcare Benefit  
Design and Delivery: Study in Support  
of the Military Compensation and  
Retirement Modernization Commission**

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Philip M. Lurie  
Stanley A. Horowitz

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## Executive Summary

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Over the last decade, personnel costs have been the fastest-rising component of the Department of Defense (DoD) budget, driven to a considerable degree by healthcare. Concerned about the impact of rising healthcare and other personnel costs on military readiness, the Congress established the Military Compensation and Retirement Modernization Commission (MCRMC), to perform a systematic review of the military compensation and retirement systems and to make recommendations for modernization.

The Institute for Defense Analyses (IDA) was asked to support the MCRMC by performing research to assist the Commission's considerations of potential modifications to the provision of health-related services. The analyses in this report are designed to assist the Commission in formulating its recommendations by satisfying three primary objectives: (1) inform the public and the Congress about the costs of DoD healthcare; (2) provide key cost elements for the Commission staff to consider in developing savings estimates associated with potential changes to the provision of the peacetime healthcare benefit for eligible beneficiaries known as TRICARE; and (3) provide the Commissioners with an independent, authoritative reference document to use when testifying on and defending the Commission report.

This paper begins with a summary discussion of the Military Health System (MHS) and a detailed presentation of current military healthcare costs. The MHS is responsible for both medical readiness of the force and TRICARE, which serves 9.6 million beneficiaries worldwide through a system of military treatment facilities ("direct care") and a supplemental network of civilian healthcare professionals, institutions, pharmacies, and suppliers ("purchased care").

All appropriations that fund the MHS together constitute the Unified Medical Program (UMP). Total expenditures by the UMP were \$48 billion in FY 2013, and preliminary estimates show FY 2014 expenditures have exceeded \$49 billion. Recent trends in UMP expenditures broken out by major budget activities are presented within this paper. The data show that direct care accounts for the largest component of UMP expenditure—an estimated \$17.7 billion in 2014, or roughly 40 percent of UMP expenditure.

Following the presentation of military healthcare costs under the current system, we present the estimated cost of providing care for a subset of beneficiaries under an alternative benefit design proposed by the Commission—a premium-based insurance model consistent with an employer-sponsored benefit program. The Federal Employees

Health Benefits (FEHB) program is used as a model for the proposed reform. Movement towards a premium-based model would constitute a fundamental shift in DoD healthcare—a shift that would turn the focus away from reliance on price-controlled reimbursement rates.

Using the observed enrollment behavior of the FEHB civilian population in conjunction with demographic data on the DoD beneficiary population, we develop a simple cohort-based methodology to predict the plan enrollment behavior that would result if DoD were to purchase healthcare through an FEHB-like program. A series of analytically derived adjustments to FEHB plan premiums to reflect the health risk of the DoD population is also developed. Plan choice and premiums are then used to construct the total cost of covering the relevant beneficiary population through this FEHB-like model. The final cost estimate suggests the population could be covered for approximately \$18 billion per year. This figure represents the estimated cost of delivering care in steady state equilibrium after allowing for a period of transition.

Following the presentation of the cost estimate for delivering care through the FEHB-like model, we develop the estimated cost of covering the same beneficiary population under the TRICARE model. To ensure a fair “apples to apples” comparison is made, we develop a cost concept called the “DoD premium equivalent cost.” This concept reflects all costs incurred while delivering care that would be covered by premiums under a private health insurance model. The DoD premium equivalent cost is estimated to be approximately \$21.2 billion, suggesting budgetary cost savings in the range of \$2 to \$4 billion with a best estimate of just over \$3 billion.

While \$3.2 billion represents our best estimate of the budgetary savings generated by the Commission’s proposed reform, this amount does not reflect the full value of switching to a private health insurance model. This is because benefit *quality* would rise under the new FEHB-like benefit. To account for the increase in quality, an analytical concept is developed to approximate the full potential savings that would result if benefit quality were held constant between the current TRICARE model and the proposed FEHB-like model. We call this concept the “full cost savings” from switching to private health insurance and estimate it is equal to \$7.5 billion. Of the \$7.5 billion full cost savings, \$4.3 billion goes back into the benefit program, where it is used to increase the benefit quality by subsidizing enrollment in higher cost plans. The remaining \$3.2 billion becomes the budgetary savings.

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# **1. Introduction**

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Concerned about the impact of rising healthcare and other personnel costs on military readiness, the Congress, through enactment of the National Defense Authorization Act (NDAA) for Fiscal Year 2013, Section 671, established the Military Compensation and Retirement Modernization Commission (MCRMC, referred to in most places hereafter as simply “the Commission”) to perform a systematic review of the military compensation and retirement systems and to make recommendations to modernize them in order to:

- Ensure the long-term viability of the All-Volunteer Force by sustaining the required human resources of that force during all levels of conflict and economic conditions;
- Enable the quality of life for members of the Armed Forces and the other uniformed services and their families in a manner that fosters successful recruitment, retention, and careers for members of the Armed Forces and the other Uniformed Services; and
- Modernize and achieve fiscal sustainability for the compensation and retirement systems for the Armed Forces and the other Uniformed Services for the 21st century.

With respect to healthcare, the Commission’s mandate is to recommend changes in the design and/or delivery of the Department of Defense (DoD) healthcare benefit that will stem the tide of rising healthcare costs and ensure the sustainability of the benefit for current and future beneficiaries. The Institute for Defense Analyses (IDA) was asked to support the MCRMC by performing analytically sound research to assist the Commission’s considerations of potential modifications to the provision of health-related services to eligible DoD beneficiaries. The analyses in this paper are designed to assist the Commission in formulating its recommendations by satisfying three primary objectives: (1) inform the public and the Congress about the costs of DoD healthcare; (2) provide key cost elements for the Commission staff to consider in developing savings estimates associated with potential changes to the TRICARE benefit; and (3) provide the Commissioners with an independent, authoritative reference document to use when testifying on and defending the Commission report.

Chapter 2 of this paper addresses the first objective. Here we provide a detailed presentation of military healthcare costs under the current DoD healthcare benefit

program known as TRICARE. We also provide a description of the components of the President's Budget that fund DoD healthcare along with additional budgetary costs that are frequently excluded in other analyses. Chapter 3 of this paper addresses the second objective. In this chapter, we develop the estimated cost of delivering healthcare through an alternative benefit design under consideration by the Commission. More specifically, we estimate the cost of providing healthcare to a portion of the DoD beneficiary population through a premium-based insurance model consistent with an employer-sponsored benefit program offering a menu of private health plans. Chapter 3 also develops the cost of covering the beneficiary population affected by the reform under the current system in a manner that takes account of the demographic composition of the population. Chapter 4 then compares the costs providing the benefit in its current form to the costs of delivering it in accordance with the Commission's recommendation, to identify the savings produced by that recommendation. Chapter 5 discusses the source of the identified savings (savings generated by increasing beneficiary cost shares versus savings generated through better management) and Chapter 6 provides a conclusion based on the research performed.

## **2. Military Healthcare Costs**

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The Military Health System (MHS) is responsible for providing health support for the full range of military operations (the “medical readiness mission”) and for providing a peacetime healthcare benefit for Uniformed Services members (both Active and Reserve), retirees, survivors, and family members. The latter benefit, known as TRICARE, serves 9.6 million beneficiaries worldwide, and consists of care in Military Treatment Facilities (MTFs) (“direct care”) supplemented by networks of civilian healthcare professionals, institutions, pharmacies, and suppliers (“purchased care”). Beneficiaries also have access to out-of-network providers at a higher out-of-pocket cost.

This chapter will introduce the MHS budget and break out the major components of MHS costs. We will consider three characterizations of cost: budgeted cost, full cost, and healthcare cost. DoD Directive 5118.03 defines the rules for calculating manpower costs for all program and budget submissions. Budgeted cost excludes many of the costs that are part of the full cost of manpower. As its name suggests, the full cost is the most comprehensive, as it captures both DoD and non-DoD costs and both near-term and future costs, the latter on an accrual basis. The cost of care includes those costs associated with the direct delivery of healthcare and excludes readiness and overhead costs (as well as costs directly associated with care delivery that are not accounted for in the DoD healthcare databases).

### **A. The President’s Budget**

The President’s Budget (PB) is the Administration’s proposed plan for managing funds, setting levels of spending, and financing the spending of the federal government.<sup>1</sup> The PB includes funding requests for all federal executive departments and independent agencies, including DoD. The Defense Health Program (DHP) appropriation partially funds the TRICARE benefit (both direct and purchased care), the majority of DoD non-deployable healthcare activities, and some deployable healthcare activities. The DHP is composed of several budget activities, including the following:

- In-House Care – medical and dental care in DoD medical centers, hospitals, and clinics;

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<sup>1</sup> US Government Accountability Office 2005.

- Private Sector Care – medical and dental care received by DoD-eligible beneficiaries in the private sector;
- Consolidated Health Support – functions that support military medical readiness and delivery of patient care (e.g., aeromedical evacuation);
- Information Management/Information Technology (IM/IT) – resources required to support both centrally and non-centrally managed DoD health information systems, communications, and computing infrastructure;
- Management Activities – the US Army Medical Command, the Navy Bureau of Medicine and Surgery, the Air Force Medical Operations Agency, and the Defense Health Agency;
- Education and Training – the Health Professions Scholarship Program, the Uniformed Services University of the Health Sciences, and other specialized skill training and professional development education programs;
- Base Operations/Communications – DoD medical and dental facility restoration and modernization, maintenance and repair activities, base communications and support, environmental, and miscellaneous other activities;
- Procurement – the procurement of a wide variety of medical items ranging from surgical, radiographic, and pathologic apparatus to medical administrative support equipment; and
- Research, Development, Test and Evaluation (RDT&E) – advanced medical research and development for wounded warriors and in areas of most pressing need for Active Duty Service members (ADSMs) and their families.

Other appropriations that fund the MHS and which, together with the DHP, constitute the Unified Medical Program (UMP) include:

- Medicare-Eligible Retiree Healthcare Fund (MERHCF), often referred to as the “Accrual Fund” – DoD normal cost contribution funded by the Military Services through the Military Personnel (MILPERS) appropriation. The UMP-funded portion of the MERHCF accounts for the future costs of healthcare<sup>2</sup> for the subset of current Service members who will eventually retire from the military and become eligible for Medicare.

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<sup>2</sup> The Accrual Fund, implemented on October 1, 2002, pays the cost of DoD healthcare programs for Medicare-eligible retirees, retiree family members, and survivors, regardless of age. The fund covers care in MTFs and by Designated Providers (through the Uniformed Services Family Health Plan) and supports purchased care payments through the TRICARE for Life (TFL) benefit first implemented in FY 2002. The future healthcare liability accrued prior to October 1, 2002 is funded by the US Department of the Treasury and is not included in the UMP.

- MILPERS, funded by the Service Departments – The UMP portion of the MILPERS appropriation includes the costs of salaries and allowances for Active and Reserve personnel assigned to the DHP (doctors, nurses, corpsmen, other healthcare providers, administrators, etc.). It also covers personnel-related expenses such as permanent change of duty station (PCS), training in conjunction with PCS moves, subsistence, temporary lodging, bonuses, and retired pay accrual. Civilian and contractor personnel are covered by the In-House Care budget activity group.
- Major military medical construction (MILCON), also funded by the Service Departments, is considered an investment account. MILCON can include funding for new hospitals and clinics, major hospital alterations and reconstruction, family housing construction, and land acquisition costs. Project costs include architecture and engineering services, construction design, real property acquisition costs, and land acquisition costs necessary to complete the construction project.

Figure 1 displays the trend in recent UMP funding. A steady trend of increasing DoD expenditures on healthcare was broken in FY 2013 when the UMP declined by \$4.5 billion. That decline was due to a number of factors, including:

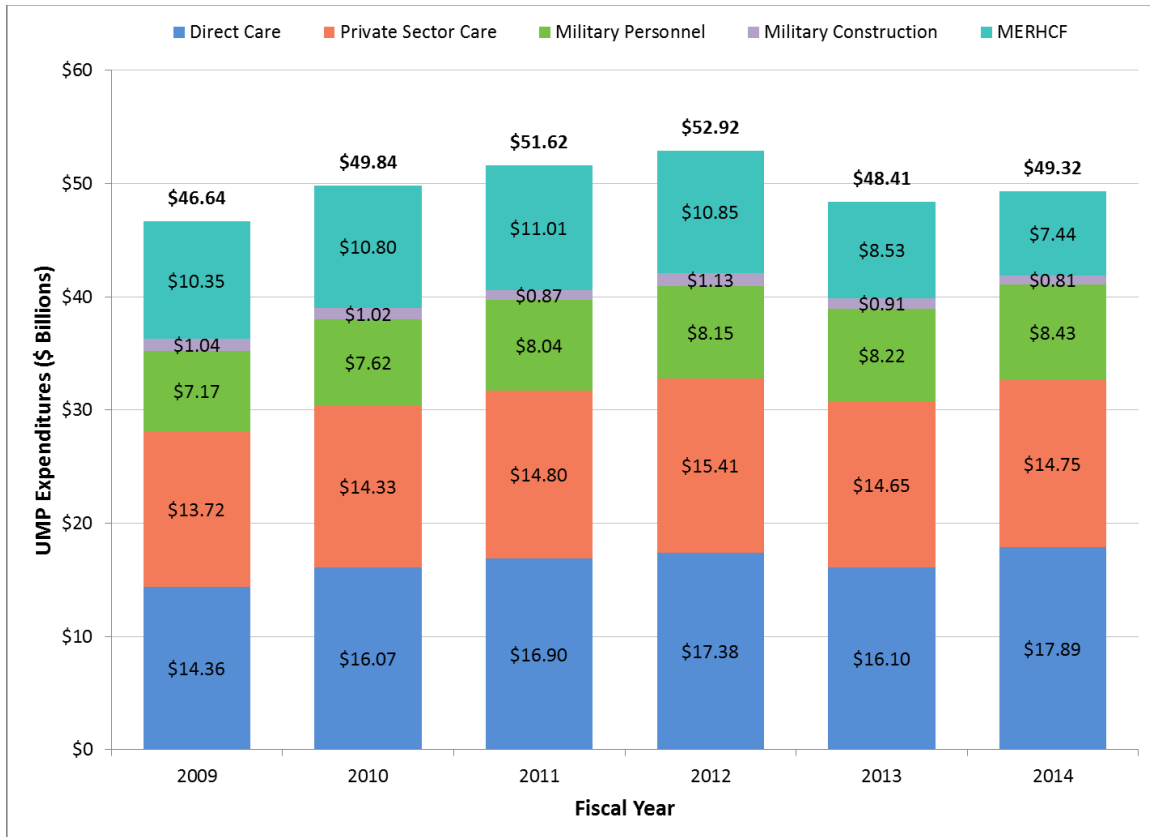
- Reductions for sequestration;<sup>3</sup>
- Reduced Accrual Fund contributions from the Services' MILPERS accounts to account for the future healthcare of current Service members. That reduction coincides with DoD's plan to draw down Active Duty end strength.<sup>4</sup> In addition, DoD's Office of the Actuary lowered its estimate of future per capita medical spending for dual-eligible beneficiaries (i.e., beneficiaries eligible for both TRICARE and Medicare);<sup>5</sup>
- DoD's full implementation of a program to collect refunds from drug manufacturers at retail pharmacies;
- DoD's implementation of Section 708 of the NDAA for FY 2012, which disallowed new enrollments of military retirees age 65 and older in the Uniformed Services Family Health Plan (USFHP); and
- A drop in supplemental funding for Overseas Contingency Operations (OCO).

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<sup>3</sup> NDAA for FY 2013, Sections 3001, 3004, and 8123.

<sup>4</sup> Department of Defense, "Defense Budget Priorities and Choices," January 2012.

<sup>5</sup> Congressional Budget Office, Costs of Military Pay and Benefits in the Defense Budget, November 2012.



Sources: Bannick et al., "Evaluation of the TRICARE Program," 2014 and 2015 (forthcoming).

**Figure 1. Recent Trend in UMP Expenditures (Then-Year Dollars)**

In FY 2014, the UMP increased despite further reductions in MERHCF and OCO expenditures. The direct care program (including in-house care plus other direct care operations and maintenance expenses, but excluding military personnel working in the direct care system) accounted for 36 percent of the UMP; private sector care, 30 percent; military personnel, 17 percent; military construction, 2 percent; and the MERHCF, 15 percent. While MERHCF contributions may continue to decline with the drawdown in end-strength, the other factors that produced the temporary drop in 2013 have not altered the increasing trends in the three largest expenditure categories (direct care, purchased care, and military personnel). Total per capita healthcare costs continue to increase annually.<sup>6</sup>

<sup>6</sup> "Total per capita healthcare costs" refers to inpatient, outpatient, and prescription costs per beneficiary. See Richard Bannick et al., *Evaluation of the TRICARE Program: Access, Cost, and Quality – FY 2014 Report to Congress*, Department of Defense, March 2014 and the same report for FY 2015 (forthcoming).

## **B. The Full Cost of Care**

The full cost of care includes additional military manpower costs not reflected in the budget plus the cost of medical malpractice claims against the Service Departments. Although these two items are not reflected in the PB as attributed to military health care, they are nevertheless costs to the government. Military medical personnel<sup>7</sup> account for about one-third of total budgeted expenses for direct care. The salaries used in the Medical Expense and Performance Reporting System (MEPRS) are based on the DoD military personnel composite standard pay rates provided by the Under Secretary of Defense (Comptroller) (USD(C)).<sup>8</sup> The USD(C) has directed that the composite rates be used when determining military personnel costs in management and budget studies. However, the composite rates are Service-specific averages across all military occupations by pay grade and do not reflect the often-higher special pays, allowances, and education expenses of medical personnel, particularly physicians.

DoD Instruction 7041.04 directs DoD components to estimate the fully burdened cost of manpower when making force-mix decisions. A recent IDA study<sup>9</sup> updated burdening factors estimated from the Medical Readiness Review<sup>10</sup> and applied them to estimate the full cost of military manpower. These factors will be used when applicable in this paper to estimate the true cost of medical personnel to DoD.

Current law does not allow Active Duty Service members to file claims for medical malpractice for their own treatment in an MTF or by a military provider (although they can file on behalf of a family member who was injured or died due to malpractice). However, other TRICARE beneficiaries can file medical malpractice claims, but they must be filed against the Military Departments, not individual providers. Judicially or administratively ordered awards of at least \$2,500 are paid by the US Department of the Treasury Judgment Fund; smaller awards are paid by the Military Departments themselves. The Judgment Fund is a permanent, indefinite appropriation available to pay court judgments and Department of Justice compromise settlements of actual or imminent lawsuits against the government.

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<sup>7</sup> Medical personnel include clinicians (physicians, dentists, interns/residents), other medical providers (e.g., physician assistants, nurse practitioners), registered nurses, and para-professionals (e.g., licensed practical nurses, laboratory and radiology technicians). Administrative personnel are excluded.

<sup>8</sup> The composite rates, adjusted annually, include average basic pay, retired pay accrual, MERHCF accrual, basic allowances for housing and subsistence, incentive and special pays, PCS expenses, and miscellaneous pay.

<sup>9</sup> Whitley et al., “Medical Total Force Management,” IDA Paper P-5047 (Alexandria, VA: Institute for Defense Analyses, May 2014).

<sup>10</sup> Department of Defense, “Final Report: DoD Force Health Protection and Readiness—A Summary of the Medical Readiness Review, 2004-2007” Washington, DC: Department of Defense, 2008.

## C. DoD Healthcare Costs

The cost of direct care is borne almost entirely by DoD; beneficiary out-of-pocket expenses are either nil or minimal. Because DoD does not bill beneficiaries who use direct care, it does not generate claims data as do the Managed Care Support Contractors. Instead, it allocates expenses to direct care inpatient hospitalization and outpatient encounter records (available in the MHS Data Repository (MDR) and the Military Health System Management and Analysis Report Tool (M2)) using data from MEPRS.<sup>11</sup> Expenses are broken down into full and variable costs,<sup>12</sup> which are further subdivided into costs for physician and non-physician salaries, ancillary services (such as laboratory and radiology), pharmacy, and other factors. MEPRS expenses must be offset by third-party collections (i.e., reimbursements from commercial insurers for those with private health insurance), which are processed by the MTFs and reported to the Services.

FY 2013 UMP funding totaled \$48.41 billion. Part of this total can be considered the direct cost of providing in-house and purchased healthcare; the remainder can be considered central overhead, administrative, and readiness (in the case of direct care) costs. We define direct healthcare costs from MEPRS, using Functional Cost Codes (FCCs), as all A (inpatient), B (outpatient), C (dental), FBI (Immunizations), FCC (Support to Non-Federal External Providers), FCD (Support to Other Military Medical Activities), and FCE (Support to Other Federal Agencies) account costs, less third-party collections. The FCD account records the costs associated with personnel loaned from one MTF to another and prescriptions written by a physician at one MTF but filled by the pharmacy at another. In the former situation, the costs are also recorded in the A and/or B accounts of the borrowing MTFs, so they will be double-counted if simply added together across MTFs. To avoid double-counting, we determined the personnel costs associated with the FCD account loaned labor using data obtained from the Expense Assignment System Version IV (EAS IV) Repository. Those costs were then subtracted from the total FCD cost.

Purchased healthcare costs include all costs paid by TRICARE for inpatient, outpatient, and prescription drug services (both retail and home delivery) as reflected in the purchased care claims data. We excluded claims for non-DoD beneficiaries (Coast Guard, Public Health Service, and National Oceanic and Atmospheric Administration) and for TRICARE Young Adult and TRICARE Retired Reserve because those programs are budget-neutral (i.e., they are fully paid by beneficiary premiums). We then added

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<sup>11</sup> Appendix A, “MHS Data,” contains descriptions of the MHS data used in this paper.

<sup>12</sup> There is no consensus among the Office of the Assistant Secretary of Defense, Health Affairs (OSD(HA)) and the Services about which expenses are variable and about what percentage of the full expense is considered variable. For most cost elements, the variable portion seems to be set at about 80 percent.



DoD’s costs for the TRICARE Dental Program and the USFHP because they are not included in the claims data. To make total purchased healthcare costs commensurate with the budget data, we subtracted out the refunds received by DoD for brand-name retail drugs.<sup>13</sup>

## D. Cost Comparisons

Figure 2 shows side-by-side comparisons of the total amount budgeted for direct care (less RDT&E, which is almost entirely readiness-related) and purchased care against the healthcare portion of the cost (determined from MEPRS, not the PB). To more accurately represent what is spent by the DHP for the care of the *current* Medicare-eligible retiree population (including Medicare-eligible family members), we display the actual receipts from MERHCF<sup>14</sup> rather than the DoD normal cost contribution. A further advantage to using MERHCF receipts is that they are already broken out by direct and purchased care.

The left-most bar (labeled “Full Cost”) includes an \$81 million Judgment Fund payout for medical malpractice awards and an increment to budgeted MILPERS expenses that reflects the full cost of military personnel to the government (not just to DoD). We determined the increment by applying a factor derived from IDA Paper P-5047<sup>15</sup> to budgeted MILPERS expenses. That research estimated the full cost of manpower for almost all DoD medical occupations, both officer and enlisted, and estimated a single factor for all DoD non-medical occupations (e.g., laundry services, security, administration). The load factor we applied (0.54) is a weighted average across all DoD occupations—where the weights are the MILPERS expenses for each DoD occupation—and excludes education and training costs<sup>16</sup> because they are already reflected in the UMP.

Note that not all budgeted costs can be cleanly allocated to direct or purchased care. For example, centralized management activities are devoted to the management of both direct and purchased care, but we cannot determine the split. Note also that purchased

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<sup>13</sup> The NDAA for FY 2008 mandated that the TRICARE retail pharmacy program be treated as an element of DoD and, as such, be subject to the same pricing standards as other federal agencies. As a result, drug manufacturers began providing refunds to DoD on most brand-name retail drugs beginning in FY 2008.

<sup>14</sup> Available from the USD(C) website at [http://comptroller.defense.gov/Portals/45/Documents/defbudget/fy2015/budget\\_justification/pdfs/09\\_Defense\\_Health\\_Program/VOL\\_I\\_Sec\\_8\\_PB-11\\_Cost\\_of\\_Medical\\_Activities\\_DHP\\_PB15.pdf](http://comptroller.defense.gov/Portals/45/Documents/defbudget/fy2015/budget_justification/pdfs/09_Defense_Health_Program/VOL_I_Sec_8_PB-11_Cost_of_Medical_Activities_DHP_PB15.pdf).

<sup>15</sup> Whitley et al., “Medical Total Force Management.”

<sup>16</sup> Education and training costs are included in the “Other O&M” portion of the “Full Cost” and “Budgeted Cost” bars in Figure 2.

care contractors collect Prime enrollment fees and other program premiums that are paid by enrolled beneficiaries. Those collections offset the contractors' costs and are reflected in the budgeted costs for purchased care in Figure 2.



Sources: Under Secretary of Defense (Comptroller), *Defense-Wide Budget Documentation – FY 2015*, Vol. 1, Sec. 8; PB-11 Cost of Medical Activities DHP PB15; MEPRS, and M2.

Note: The bars labeled “Budgeted Cost,” “Full Cost,” and “Healthcare Cost” are defined in Sections A, B, and C of this chapter, respectively.

**Figure 2. Characterizations of Cost by Source of Care**

### 3. Alternative Benefit Design Options

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This chapter develops the estimated cost of providing healthcare to a portion of the DoD beneficiary population through a premium-based insurance model consistent with an employer-sponsored benefit program offering a menu of private health plans. Movement towards a premium-based model would constitute a fundamental shift in DoD healthcare—a shift that would turn the focus away from reliance on price-controlled reimbursement rates. As a result, the savings found within this analysis are almost double the savings estimated for past DoD reform proposals that relied solely on increasing out-of-pocket costs and did nothing to alter perverse provider incentives created by the use of price-controlled reimbursements.<sup>17</sup>

Under the Commission’s proposed policy change, care provision for ADSMs and Medicare-eligible military retirees covered by TRICARE for Life (TFL) would remain unchanged. The populations affected by the change would primarily include the family members of Active Duty Service members (ADFM) and retirees not yet eligible for Medicare and TFL. These beneficiary groups would now select a private health plan and assume financial responsibility for a portion of the premium cost. A Basic Allowance for Healthcare (BAHC) would be introduced for all ADFMs to help cover premium shares, co-pays, deductibles, and other out-of-pocket expenses.<sup>18</sup>

The cost to the DoD of purchasing care under such a system will depend on the premium costs of the health plans available within the new program and the enrollment behavior of the population to be covered. Constructing a valid cost estimate requires data on a population currently covered under such a system. To meet this requirement, IDA researchers worked with the Office of Personnel Management (OPM) to obtain data on the civilian population enrolled in the Federal Employees Health Benefits (FEHB) program. OPM provided support for the Commission’s analysis; however, such support

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<sup>17</sup> Joseph Antos, Mark Pauly, and Gail Wilensky, “Bending the Cost Curve through Market-Based Incentives,” *New England Journal of Medicine* 367, No. 10 (September 6, 2012): 954–58; *Options for Reducing the Deficit: 2014 to 2023* (Congressional Budget Office, November 2013), 224, accessed October 19, 2014, <http://cbo.gov/sites/default/files/cbofiles/attachments/44715-OptionsForReducingDeficit-3.pdf>.

<sup>18</sup> Section 3.E of this paper contains a detailed description of certain aspects of the proposed alternative benefit design. The discussion is focused on design details relevant to the cost estimate (beneficiary groups affected by the reform, the BAHC, and beneficiary premium cost shares). See the Commission’s report for a full explanation of the plan under consideration.

does not represent an endorsement of or suggest any opinion on our research, paper, or recommendations. FEHB is currently the largest employer-sponsored health benefit program in the United States, and its enrollees constitute an analytically desirable comparison group for the DoD beneficiary population given the program's size and extensive geographic span.

While several prior studies have considered shifting a portion of the DoD beneficiary population to FEHB, we are not aware of any recent cost analysis that estimates the costs and savings of what the Commission is proposing. The Commission's recommendation does not place military beneficiaries in the FEHB program, it creates a new program (possibly administered by OPM, but distinct from FEHB). This allows for insurance plan premiums and other changes (e.g., mix of plan offerings) to fully adjust to the military population. Unlike the previous studies, the analysis of this chapter provides an estimate specifically based on unique features of the Commission's recommendation.<sup>19</sup>

Using the observed enrollment behavior of the FEHB civilian population in conjunction with demographic data on the DoD beneficiary population, we develop a simple cohort-based methodology to predict the plan enrollment behavior that would result if DoD were to purchase healthcare through an FEHB-like program. More specifically, we allocate DoD beneficiaries across specific health plans according to the enrollment distribution of FEHB beneficiaries belonging to the same age, income, and state groups. Plan premium data are then used to construct an unadjusted estimate for the cost of covering the selected DoD population. However, while the initial estimate controls for the impact of observable demographics on plan choice, it does not account for the fact that plan premiums are endogenously determined by the characteristics of the beneficiary population. To reach our final cost estimate, we implement a set of analytically derived adjustments to plan premiums. These include a population risk scoring adjustment, an adjustment for the demographic composition of plan enrollment, an adjustment that accounts for the retirees' utilization of care from the Department of Veterans Affairs (VA), and an adjustment that accounts for TRICARE beneficiaries with access to other health insurance (OHI). Each of these is discussed in detail in Section C of this chapter.

Once our final baseline cost estimate is established, we model several alternative options for adjusting premium cost shares that would result in changes in the program's

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<sup>19</sup> Previous analyses that considered shifting a portion of the DoD beneficiary population to FEHB include the T4 Study Group Final Report and a CBO 2008 estimate of H.R. 1222 "Keeping our Promise to America's Military Retirees Act." Past work used either average FEHB premium costs or assumed all or most of the population would enroll in Blue Cross/Blue Shield (BCBS) Standard.

cost to DoD and to beneficiaries' plan choices and payments. Last, we perform sensitivity analyses on model assumptions including take-rates for retirees and adjustment factors applied. It should be noted that the estimates presented in this chapter are representative of the steady state that would result after a period of transition.

Our final baseline estimate for the cost of providing care for the relevant beneficiary population under the new premium-based model is \$18 billion.

The remainder of this chapter is organized as follows. Section A begins with a brief discussion of the FEHB, the program on which this analysis is based. Section B introduces the methodology developed to determine how the DoD beneficiary population would distribute itself across the set of plans available in FEHB. Section C discusses analytical adjustments that must be applied to premium rates in order to reach our final cost estimate. Section D provides a summary discussion of the DoD and FEHB data samples used in this analysis and then presents a side-by-side comparison. Estimation results are presented in Section E, followed by a cost excursion that explores premium cost-sharing options and several sensitivity analyses.

## **A. FEHB**

Administered by OPM, the FEHB program is the largest employer-sponsored health benefit program in the United States. There are two populations eligible for enrollment in the program: (1) federal civilian employees; and (2) federal civilian retirees and their surviving spouses, referred to as annuitants. As of 2014, over 4,000,000 federal civilians and annuitants were enrolled in one of the program's health plans and over 8,000,000 lives were covered.<sup>20</sup>

The program offers over 200 health plans, which can be generalized into two general categories:

- Fee-for-service (FFS) plans with and without a preferred provider organization (PPO), and
- Health Maintenance Organizations (HMOs).

Of the total available plans, approximately 20 are nationally available FFS plans. The remaining plans are regional HMOs, available only in specific service areas. Premiums vary from plan to plan and by coverage level (self only vs. family). Payment of the selected plan's premiums are split between the government and the employee, with the government contribution set equal to 75 percent of the plan's premium unless that amount exceeds the contribution cap (72 percent of the weighted average premium of all

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<sup>20</sup> *Covered lives* includes the dependents of the contract holder.

plans). For 2014, the maximum bi-weekly government contribution for a self (family) plan was \$196.68 (\$437.62). Table 1 illustrates the premiums and cost sharing for two FFS health plans available in FEHB—the Blue Cross/Blue Shield (BCBS) Standard benefit plan and the Government Employees Health Association (GEHA) benefit plan.

**Table 1. Bi-Weekly Premium Amounts 2014**

Plan Name	Plan Size	Total Premium	Government Pays	Employee Pays	Contribution
BCBS Standard	Self Only	\$ 284.50	\$ 196.68	\$ 87.82	68%*
	Family	\$ 642.60	\$ 437.62	\$ 284.50	68%*
GEHA Benefit Plan-Standard	Self Only	\$ 192.33	\$ 144.25	\$ 48.08	75%
	Family	\$ 437.37	\$ 328.03	\$ 109.34	75%

\*These plans receive the maximum contribution, set to 72 percent of the weighted average of all plans.

As illustrated, the cost to the government of covering a given individual will depend upon that individual’s plan choice. Therefore, in order to estimate the premium cost DoD would incur if its beneficiary population were to purchase health plans in FEHB, we must first predict their plan enrollment behavior. To do so, we develop a methodology that uses data on the enrollment behavior of the current population covered by FEHB.

## **B. Methodology for Determining DoD Plan Choice**

To develop our cost estimate, we apply federal civilian plan choices using data on current FEHB enrollees to the military beneficiary population. A simple approach would be to obtain the distribution of plan enrollment for this population and allocate the DoD population across each plan accordingly (i.e., if 44 percent of FEHB contract holders are enrolled in BCBS Standard, we assume 44 percent of DoD beneficiaries will select this plan). However, this would fail to account for important differences in the demographic, socioeconomic, and geographic composition of the FEHB and DoD population, and thus prove naïve. To better illustrate this point, Table 2 presents the age distribution of sponsors for each of the beneficiary populations. A quick glance reveals that DoD sponsors are significantly younger than the FEHB population. Nearly 50 percent of DoD sponsors are under age 35, while less than 10 percent of FEHB sponsors fall into this category. Conversely, less than 1 percent of DoD sponsors for the categories that would be eligible for this policy change are over 65, compared to nearly 36 percent for FEHB.

**Table 2. Population Age Comparison, FY 2013**

<b>Age</b>	<b>FEHB Contract Holders</b>			<b>DoD Sponsors</b>		
	<b>Count</b>	<b>Percent</b>	<b>Cumul. Percent</b>	<b>Count</b>	<b>Percent</b>	<b>Cumul. Percent</b>
<23	3,938	0%	0%	413,703	14%	14%
23–34	358,678	9%	9%	894,572	31%	46%
35–44	475,730	12%	21%	431,988	15%	61%
45–54	750,288	19%	39%	518,715	18%	79%
55–64	1,003,588	25%	64%	595,488	21%	100%
65–74	694,849	17%	81%	4,819	0%	100%
75+	753,857	19%	100%	3,734	0%	100%
<b>Total</b>	<b>4,040,928</b>			<b>2,863,019</b>		

Note: The FEHB age distribution is based on the age of all contract holders enrolled in the system (active employees and annuitants). The DoD age distribution is based on all active-duty and non-Medicare-eligible retiree sponsors.

To properly account for such differences in the composition of the two populations, a cohort-based approach is implemented. This allows the DoD population to be allocated across plans based on within-group enrollment distributions. The cohort grouping is based on observable demographic and socioeconomic factors known to influence health plan choice. While many demographics are thought to have some bearing on plan choice, age (which can be viewed as a proxy for health and expected expenditures) and income are widely recognized as the most important.<sup>21</sup> Geographic considerations are also key, given that many plans are only available in select market areas. The cohort grouping for this analysis is therefore based on age, income, and state (AI&S).

It should be noted that the income data used in this analysis are the contract holder's income from earnings.<sup>22</sup> They do not include spouse's earnings or income from other sources such as interest and dividends. Past research has documented that military spouses, on average, are employed at lower rates and earn less than their civilian counterparts.<sup>23</sup> Assuming health plan choice is determined by total family income and

<sup>21</sup> Dennis P. Scalon, et al., "Consumer Health Plan Choice: Current Knowledge and Future Discussions," *Annual Review of Public Health* 18, No. 1 (1997): 507–528.

<sup>22</sup> Service member's income is imputed from rank. Regular military compensation (RMC), which consists of basic pay, BAH, and BAS, is used as the income measure. See Appendix A for more detail and the income/rank crosswalk.

<sup>23</sup> Harrell et al., *Working Around the Military: Challenges to Military Spouse Employment and Education* (Santa Monica, CA: The RAND Corporation, 2004), [http://www.rand.org/content/dam/rand/pubs/monographs/2004/RAND\\_MG196.pdf](http://www.rand.org/content/dam/rand/pubs/monographs/2004/RAND_MG196.pdf); Castaneda and Harrell, "Military Spouse Employment: A Grounded Theory Approach to Experiences and Perceptions," *Armed Forces & Society* 34, No. 3 (Spring 2008): 389–412, doi: 10.1177/0095327X07307194; and Lim and Schulker, "Measuring

civilian spouses earn more on average, our use of contract holder income to predict plan choice may bias our cost estimate upwards. Education levels, another factor positively correlated with plan choice, is also higher on average for the civilian population.

The AI&S cohorts are constructed separately based on coverage level (self only versus family). The end result is that DoD beneficiaries can now be allocated across plans according to the enrollment behavior of their civilian counterparts (e.g., military beneficiaries aged 17–24 earning under \$35,000 annually and living in Kentucky will be distributed to health plans according to the enrollment choices of civilians with the same set of characteristics). Table 3 shows the demographic groupings used to construct the AI&S cohorts. The selection of age and income bands was determined in part by data-sharing restrictions imposed by OPM.<sup>24</sup>

**Table 3. Categories Used to Define Beneficiary Cohorts**

Coverage Level* (2)	Age Group (7)	Income Group (8)	States (52)
Self Only or Family	0–24	Less than 34,999	There are 52 geographic regions: the 50 states, the District of Columbia, and a catch-all category for OCONUS
	24–34	35,000 to 49,999	
	35–44	50,000 to 64,999	
	45–54	65,000 to 79,999	
	55–64	80,000 to 94,999	
	65–74	95,000 to 109,999	
	75 & up	110,000 to 150,000	
		Greater than 150,000	

\*Numbers in parentheses represent number of levels within each category.

The total potential number of cohort cells is equal to 5,824.<sup>25</sup> However, data tabulations show that not all cells contain observations. Cells in which there are civilian observations but no military observations can be ignored, as the enrollment behavior of these groups will have no bearing on our military population. However, cells in which there are military observations but no civilian observations require adjustments to the

Underemployment Among Military Spouses” (Santa Monica, CA: The RAND Corporation, 2010), [http://www.rand.org/content/dam/rand/pubs/monographs/2010/RAND\\_MG918.pdf](http://www.rand.org/content/dam/rand/pubs/monographs/2010/RAND_MG918.pdf).

<sup>24</sup> OPM could not provide plan enrollment data for AI&S cells with fewer than 11 observations. This restriction made narrower age and income bands undesirable. The initial data pull also included gender, but this factor was removed to increase cell sizes.

<sup>25</sup>  $2 \times 7 \times 8 \times 52 = 5,824$ . For the Active Duty population (FEHB population), 2,756 (3,623) cells contain observations.



methodology.<sup>26</sup> Once these required adjustments are made, the relevant DoD population is allocated across the set of available FEHB plans using the methodology described above.

## **C. Methodology for Population-Specific Premium Adjustments**

As previously discussed, significant compositional differences exist between the FEHB and DoD beneficiary populations. The cohort methodology discussed above allows us to control for some of these differences when modeling the predicted enrollment behavior of DoD beneficiaries. However, plan choice is not the only parameter affected by the demographic composition of beneficiary populations. Premium amounts must also be considered.

Under a premium-based model, participating health plans assume the financial risk for the beneficiary population they cover. Insurance underwriters therefore determine plan premiums based upon a careful assessment of each population's specific risk pool. For instance, even when controlling for age, a significant difference in health may still exist between the average 17–24 year old male in the FEHB population compared to the average 17–24 year old male in the DoD population. To fully account for these factors, insurers calculate risk scores based on claims data for subsets of beneficiaries (such as 17–24-year-old males) within a population. These risk scores, together with the populations' composition, determine the premium amounts. The following section provides a more detailed discussion of each of these factors and our methodology for accounting for them in our cost estimate. A method to adjust premiums to account for retiree utilization of VA health benefits and DoD beneficiaries' utilization of OHI is also introduced. The latter two adjustments are required specifically for cost comparison purposes.

### **1. Population-Risk Scoring (PRS) Adjustment**

Time and resource constraints made an independent risk scoring of the DoD beneficiary population outside the scope of this paper. However, we are able to leverage recent research findings on this topic to construct an analytically based population-risk score (PRS) adjustment factor for the DoD population. The 2012 Final Report put out by

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<sup>26</sup> In instances where a military population with no corresponding civilian population exists, we aggregate up to age and state level cohorts to obtain a FEHB plan distribution. In a few instances, age and state cells with only military observations still exist. In these instances we aggregate up to cohorts based on age alone. We also chose to merge the youngest two age groups, given this population was small for FEHB.

the TRICARE “Fourth Generation” (T4) Study Group<sup>27</sup> contained analyses of several options for the design of the future MHS. Among the six alternatives considered in the report was an option to provide care to retirees and their family members through FEHB. As part of the analysis, risk scores were calculated for retirees and their family members currently enrolled in TRICARE Prime or using TRICARE Standard. The analysis was performed using the Johns Hopkins ACG software and sample claims data for the relevant DoD and FEHB populations.<sup>28</sup> Results indicated the TRICARE beneficiaries’ risk score was 2 percent lower than that of the FEHB population, holding personal characteristics constant.<sup>29</sup> We therefore apply a PRS factor adjustment of 2 percent to the portion of premium dollars covering direct medical and pharmacy care (90 percent in the case of the FEHB program).<sup>30</sup>

## **2. Population Composition (PC) Adjustment**

Plan premiums will also be a function of the overall composition of the population enrolled within each plan. Consider our AI&S cohorts previously discussed. Even if risk scores were held constant within each cell across the two populations, plan premiums would still vary across the two populations given differences in the demographic distribution of each population. Table 4 illustrates this point by presenting the age distribution for the BCBS Standard and Basic Plans—the plans with the highest FEHB enrollment and highest predicted DoD enrollment.<sup>31</sup>

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<sup>27</sup> Department of Defense-Health Affairs, “Fourth Generation of TRICARE (T4) Study Group Final Report Working Draft,” (Washington, DC: January 2012).

<sup>28</sup> Actual FEHB claims data were not used in this analysis. Instead, FEHB contract holder demographics were used to generate a sample of claims data with MarketScan.

<sup>29</sup> See T4 Study Group Final Report for more details.

<sup>30</sup> Under the Affordable Care Act, a provision known as the Medical Loss Ratio (MLR) requires large insurers to spend at least 85 percent of premium dollars on medical care. The remainder may cover administrative costs, profits, overhead, etc. OPM informed IDA that in FEHB, over 90 percent of plan premiums go to medical care for many large carriers in the program.

<sup>31</sup> The DoD population was allocated to plans based on the enrollment patterns of the active employee FEHB population. See Section D of this chapter for a detailed discussion of the data.

**Table 4. Blue Cross and Blue Shield 2013 Enrollment**

<b>Standard</b>						
<b>FEHB Contract Holders</b>				<b>DoD Sponsors</b>		
<b>Age</b>	<b>Count</b>	<b>Percent</b>	<b>Cumulative</b>	<b>Count</b>	<b>Percent</b>	<b>Cumulative</b>
<23*	717	0%	0%	7,743	1%	1%
23–34	67,258	4%	4%	83,627	12%	14%
35–44	138,005	8%	12%	111,259	16%	30%
45–54	279,631	16%	28%	202,116	29%	58%
55–64	451,769	26%	54%	292,080	42%	99%
65–74	360,133	21%	75%	3,080	0%	100%
75+	424,870	25%	100%	720	0%	100%
<b>Total</b>	<b>1,722,383</b>			<b>700,625</b>		
<b>Basic</b>						
<b>FEHB Contract Holders</b>				<b>DoD Sponsors</b>		
<b>Age</b>	<b>Count</b>	<b>Percent</b>	<b>Cumulative</b>	<b>Count</b>	<b>Percent</b>	<b>Cumulative</b>
<23*	1,634	0%	0%	92,754	11%	12%
23–34	169,813	21%	21%	244,789	30%	42%
35–44	177,938	22%	43%	167,384	20%	63%
45–54	202,333	25%	67%	166,013	20%	83%
55–64	177,405	22%	89%	146,599	18%	100%
65–74	70,711	9%	98%	646	0%	100%
75+	19,110	2%	100%	4	0%	100%
<b>Total</b>	<b>818,944</b>			<b>818,189</b>		

Note: The FEHB distribution is based on all contract holders enrolled in the system (active employees and annuitants). The DoD distribution is based on all active-duty family members and non-Medicare eligible retiree sponsors.

\* There are slight variations in the first two age categories presented in this analysis. For some subsets of the FEHB population the first age group was 0–24 while for others it was 0–23.

From the table, it is clear that the DoD BCBS plans would enroll a population with a considerably different age composition than the FEHB BCBS plans. Insurers setting the premium amounts for the DoD-specific health plan would take the demographics of the covered population into account. While advanced actuarial modeling would be required to determine each plan's actual premiums, here we develop two simple but analytically based adjustment factors to explore what the DoD-specific premiums might look like. The methodology requires information on the relative cost of insuring different age cohorts. The first column in Table 5 shows the nationwide average per capita healthcare

spending by each of our age groups.<sup>32</sup> Spending, which includes premiums, co-pays, and other out-of-pocket expenditures, is used as proxy for each group’s average total healthcare cost. The second column shows the average risk score by age. Both average healthcare spending and average risk score increase monotonically with age. However, the healthcare cost and risk score for the 65+ group is not representative of the cost of insuring this population given that Medicare serves as their first payer.

**Table 5. Average National Healthcare Spending and Risk Score by Age**

<b>Age Range</b>	<b>Average Health Care Spending<sup>a</sup></b>	<b>Average Risk Score<sup>b</sup></b>
17--23	\$3,068	0.745
24--34	\$4,054	1.196
35--44	\$5,696	1.209
45--54	\$7,323	1.335
55--64	\$9,379	1.972
65+ <sup>c</sup>	\$18,424	3.867

<sup>a</sup> *Source:* Derived from Centers for Medicare and Medicaid Services, Office of the Actuary, National Health Statistics Group, “Total Health Care Per-capita Spending by Gender and Age Group,” available at <http://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/NationalHealthExpendData/Downloads/2010GenderandAgeTables.pdf>.

<sup>b</sup> *Source:* The risk scores are derived using claims data from the M2 database. They are specific to the DoD beneficiary population rather than national averages.

<sup>c</sup> FEHB plans do not realize the full cost for this population because most enrollees participate in Medicare Part A and/or B.

To address the fact that Medicare is the first payer for the 65+ cohort, we estimate average spending for this cohort less Medicare’s contribution. The calculation required data on the Medicare enrollment status of those in the 65+ cohort (i.e., enrolled in Medicare Part A only, enrolled in Medicare Part A & B, or non-enrolled) and data on both total personal healthcare spending and spending by Medicare. The full calculation is presented in Appendix B. Results indicate the average spending for the 65+ cohort is equal to \$9,567 once Medicare spending is removed.<sup>33</sup> We set the average risk score for the 65+ cohort equal to 1.972 (the score of the 55–64-year-old cohort).<sup>34</sup>

<sup>32</sup> The 10-year age group means were interpolated from 20-year means using a polynomial model. Appendix B provides detail on the methodology.

<sup>33</sup> In the sensitivity analysis we explore the impact of setting the 65+ cohort’s average spending value equal to an amount 30 percent lower and 30 percent higher than our estimated value (\$9,567).

<sup>34</sup> We selected the risk score of the 55–64-year-old cohort given the estimated average spending for the 65+ cohort was closest to the 55–64-year-olds. This is also subject to sensitivity analysis.

Using the plan-specific age distributions, we compute a weighted average healthcare spending and weighted average risk score for each plan's enrolled population. Premium population composition factors (PCFs) are then constructed as the percentage difference between the two averages. Table 6 illustrates how these calculations work for the BCBS plans. When average healthcare spending is used to compute plan-specific PCFs, we find the estimated cost of covering the DoD population in BCBS Basic is lower than the FEHB population by 12 percent. For the Standard Plan, the cost of covering the DoD population is lower by only 2 percent due to the fact that many FEHB enrollees are Medicare-eligible and use BCBS only as a second payer. Results are similar when the average risk score is used to compute the PCF.

**Table 6. Population Composition Factor Illustration**

Variable	Plan	Weighted Averages		PCF
		FEHB	DoD	
Average Spending	BCBS Basic	\$6,975	\$5,900	-15%
	BCBS Standard	\$8,626	\$7,462	-13%
Average Risk Score	BCBS Basic	1.486	1.315	-12%
	BCBS Standard	1.777	1.561	-12%

Because the average spending factor (AS-PCF) and the risk score-based factor (RS-PCF) address the same adjustment, only one can be applied at a time. In the baseline cost estimate, we apply plan-specific AS-PCF to each FEHB premium amount. In the sensitivity analysis we present estimates using the RS-PCF.

### 3. VA Utilization (VAU) Adjustment

As military veterans, the DoD retiree population is eligible to enroll for VA health benefits and may receive care in the VA clinics and hospitals on a space-available basis determined by a priority system. As of the end of FY 2013, roughly 37 percent of Medicare-eligible retirees were users of the VA system. Under the proposed policy reform, this population would remain eligible for VA care. When these users access care through the VA, their utilization of TRICARE or OHI is reduced. This means DoD currently pays for only a portion of this population's care while the FEHB premiums being used for the cost estimate are determined for a population in which the plan generally covers all care. Failure to adjust for this difference would double count the cost of care (the cost would be included in both the FEHB premium estimate and the VA budget). To account for this, we require a dollar measure of the VA's impact on retirees' TRICARE utilization.

Recent IDA research has shown proximity to a VA hospital reduces TRICARE utilization by approximately \$681 per Prime enrollee living within 100 miles of a VA hospital and by \$685 for non-Prime users within 100 miles.<sup>35</sup> The model predicts an overall reduction of just over \$506 million for the retiree population. We therefore subtract this estimated reduction from our cost estimate.<sup>36</sup>

#### **4. Other Health Insurance (OHI) Adjustment**

Some users of the TRICARE system have access to alternative private health insurance. While these individuals use their private health plans as their primary insurer, they can still access TRICARE as a second payer. Because TRICARE is the second payer for these individuals, their per capita cost is lower than the per capita cost for those without OHI. In Chapter 4 we present a side-by-side comparison of the estimated cost of covering the relevant population under the proposed FEHB-like model and under the current system. As with the VA utilization, however, the FEHB plan premiums being used to generate the cost estimate generally cover the cost of all care. We must adjust the cost of OHI users to reflect their full cost in order to not double count the cost of this care. To do this we calculate the additional cost that would occur if these users had the same per capita cost as the users without OHI. The additional cost is found to be \$341 million. This amount is also subtracted from our cost estimate.<sup>37</sup>

#### **5. Increased Competition from the Introduction of Regional PPOs**

While many consider the FEHB model successful, some research suggests that competition is not as robust as it could be and raises concern over the growing concentration of the dominant insurer (BCBS) in the FEHB market. This concern has led to an ongoing debate over expanding the types of plans that are eligible to participate in the FEHB market.<sup>38</sup> The crux of the issue has centered on regional PPOs, such as those

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<sup>35</sup> Larry Goldberg, “Estimation of Health Care Utilization by Military Retirees at VA Hospitals in FY2013,” IDA Briefing, 2014.

<sup>36</sup> IDA does not make a prediction about how this adjustment would occur in implementation (e.g., the care would remain in the VA and plan premiums would adjust downward or the care would return to DoD lowering VA’s budget). The important element for IDA’s analysis was not to double count the cost of the care in its estimate.

<sup>37</sup> As with the VA estimate, IDA does not make a prediction about how this adjustment would occur in implementation (e.g., the beneficiaries would retain OHI and plan premiums would adjust downward or the beneficiaries would drop their OHI). The important element for IDA’s analysis was not to double count the cost of the care in its estimate.

<sup>38</sup> See A. C. Enthoven, “Effective Management of Competition in the FEHB (Federal Employees Health Benefits Program),” *Health Affairs* 8, No. 3 (1989): 33–50.

offered by Humana, Aetna, Cigna, and United Healthcare.<sup>39</sup> Under the current system, PPOs may only be offered at the national level. National provision requires nationally set premiums. Because healthcare costs vary across markets, charging only one rate implies people purchasing plans in low cost markets subsidize those purchasing plans in high cost markets. This results in distortions to local competitive environments. In high cost markets where national plans are set artificially low, local HMOs struggle to offer competitive rates and may leave the market altogether. Conversely, in low cost markets where national plans are set artificially high, local HMOs face less competitive pressure and may keep prices artificially high. Many believe the introduction of regional PPOs would help solve these distortions by introducing more competition. CBO estimates that an expansion in plan types would result in a \$260 million saving in direct spending over 10 years.<sup>40</sup>

Under the proposed policy change, the DoD population would be covered by its own set of plans and DoD would have the power to expand the plan types and replace the requirement for national PPOs with the option for regional PPO plans. Our analysis uses the plans currently available in FEHB; we do not adjust our cost estimates for the option of regional PPOs. This could potentially make our estimate conservative, given DoD would seek to increase competitive pressure among plans.

## **D. Data**

In this section, we provide brief descriptions of the DoD and FEHB beneficiary populations, including the subgroups within each population and population totals. All population data are for FY 2013. The unit of observation is the contract holder or plan sponsor. See Appendix B for a side-by-side population comparison by age and income.

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<sup>39</sup> While regional insurers cannot offer PPOs in FEHB, they are free to offer HMOs for limited market areas.

<sup>40</sup> The debate over expanding plan types is described in Joe Davidson, “OPM Seeks More Competition for Employee Health Plans,” *The Washington Post*, August 6, 2012, [http://www.washingtonpost.com/politics/opm-seeks-more-competition-for-employee-health-plans/2012/08/06/ea6c242e-dffc-11e1-a421-8bf0f0e5aa11\\_story.html](http://www.washingtonpost.com/politics/opm-seeks-more-competition-for-employee-health-plans/2012/08/06/ea6c242e-dffc-11e1-a421-8bf0f0e5aa11_story.html).

## 1. DoD Beneficiary Population

All DoD population data come from the Defense Enrollment Eligibility Reporting System (DEERS) data in the MDR and reflect the population at the end of FY 2013. For the purpose of our analyses, the eligible DoD beneficiary population is split into six sponsor categories:

- Active-duty Service Members (AD): includes active-duty Service members and their family members (ADFMs);
- Active Duty Guard/Reserve (ADGR): includes active-duty Guard Reservists and their family members (ADGRFMs)
- Inactive Guard/Reserve (IGR): includes Guard/Reservists and family members (IGRFM) in a pre- or post-activation status (up to 180 days before and 180 days after activation), but excluding those enrolled in TRICARE Reserve Select;
- Non-Medicare-Eligible Retirees (RET): includes all non-Medicare-eligible retirees (typically those under age 65) and their dependents;
- Non-Medicare-Eligible Dependents of Medicare Eligible Retirees (TFL DEP):<sup>41</sup> Family members of Medicare-eligible retirees who are not yet Medicare-eligible themselves remain eligible for TRICARE Prime, Standard, and Extra; and
- All others (OTH): this group contains beneficiaries who are dependent survivors of Active Duty members, retirees, and inactive Guard/Reservists who remain eligible for a TRICARE benefit. It also contains a number of beneficiaries whose beneficiary category was listed as “Other” in the DEERS database.

Table 7 shows the population totals for the six groups split out by level of coverage (self only or family). Level of coverage is important because it dictates the premium amount a sponsor will face. For the AD group, level of coverage also affects whether an FEHB plan will be purchased (recall only ADFMs will be covered by the FEHB-like plans, so Active Duty sponsors with no families do not require a plan). The final column contains total covered lives for each group (the sponsor and family members).

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<sup>41</sup> The “split” families containing a TFL-eligible sponsor with non-Medicare eligible dependents were only partially identified in our initial “Sponsor Only” data pull from the DEERS database given the non-Medicare-eligible dependents were not listed as sponsors. Further investigation revealed over 300,000 of these dependents. The cost analysis accounts for these individuals by purchasing FEHB plans for them at the retiree weighted premium rate. However, as they were not in the original data pull, we do not have their demographic data and they do not appear in the age and income distribution tables.



**Table 7. Eligible DoD Sponsors and Covered Lives**

<b>Beneficiary Category</b>	<b>Self Only</b>	<b>Family</b>	<b>Total</b>	<b>Covered Lives</b>
AD	621,865	825,740	1,447,605	3,427,194
ADGR	76,219	120,568	196,787	500,084
IGR	19,362	24,447	43,809	100,005
RET	199,465	849,185	1,048,650	2,560,031
OTH	122,854	28,467	151,321	200,671
TFL DEP	255,352	61,775	317,127	425,233
<b>Total</b>	<b>1,295,117</b>	<b>1,910,182</b>	<b>3,205,299</b>	<b>7,213,218</b>

Note: The weighted average family size for this population is 3.13.

Table 7 reflects the full non-Medicare-eligible DoD beneficiary population. Table 10 in Section 3.E presents user rate assumptions and lives covered once these rates are applied and Active Duty sponsors are removed.

## 2. The FEHB Beneficiary Population

To obtain data on the FEHB population, IDA researchers worked with OPM. Counts of individuals enrolled in each plan by age, income, and state were provided, along with 2014 premium rates.<sup>42</sup> The FEHB contract holders can also be split into two main categories:

- Active employees (AE): currently employed federal civilians, and
- Annuitants (AN): federal civilian retirees and their dependent survivors.

Table 8 shows the FEHB population broken out in the same manner as the DoD population in Table 7.

**Table 8. FEHB Enrollee Population**

<b>Beneficiary Category</b>	<b>Self Only</b>	<b>Family</b>	<b>Total</b>	<b>Covered Lives</b>
AE	785,497	1,359,829	2,145,326	Unknown
AN	1,118,160	777,442	1,895,602	Unknown
<b>Total</b>	<b>1,903,657</b>	<b>2,137,271</b>	<b>4,040,928</b>	<b>8,210,527</b>

Note: The average family size for this population is 2.95.

<sup>42</sup> Data-sharing restrictions prevented OPM from providing enrollment date for AI&S plan cells containing fewer than 11 observations. Over 94 percent of enrollees were in cells that met this requirement. The analysis is based on these individuals.

Active employees, like DoD's Active Duty population, are currently employed by the federal government, making the two populations suitable for comparison. OPM also recommended their active employees in the 45–65 age range be used as the comparison group for the DoD retiree population rather than their annuitant population, given that the focus is on younger non-Medicare-eligible retirees. OPM noted that a large portion of their annuitant population under 55 and some of those under 62 are disabled and thus not appropriate comparisons for young military retirees who often go on to a second career after retiring from military service.<sup>43</sup> Thus the data and analysis that follow are based on only the *active employee* portion of the FEHB population unless noted otherwise.

## **E. Cost Estimate**

Having walked through the methodology for determining DoD plan choice, premium adjustments, and the data samples used in the analysis, we can now turn to the cost estimates. We begin by detailing our baseline set of assumptions and then present our estimation results. This is followed by a sensitivity analysis in which we explore varying key model parameters such as the take-rates. An excursion in which we consider a reform modification that would allow DoD to maintain the Federal Supply Schedule (FSS) for pharmaceuticals is also presented.

### **1. Baseline Cost Estimate Assumptions**

For the unadjusted cost estimate, we include FEHB health plans for ADFMs and non-Medicare-eligible retirees based on the 2014 premium rates set for the FEHB population. Here we walk through the determination of premium amounts for the ADFMs, assumptions on take-rates, premium cost sharing, and the BAHC.

#### **a. Determining Premium Amounts for Active Duty Families**

For ADFMs and ADGRFMs, the family premium amount must be adjusted to account for the fact that no coverage is required for the Active Duty Sponsor. To construct a family member-only premium amount, data on the FEHB program-wide cost per contract were used. The cost per self-only contract was found to be 40 percent of the family contract cost for FFS plans and 42 percent for HMOs. However, rather than simply reducing the contract cost by 40 (or 42) percent, we first make an adjustment to account for differences in DoD and FEHB family size. Specifically, we rescale the child portion of the family contract amount to account for larger families and determine that

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<sup>43</sup> OPM also recommended use of the active employee population as the comparison group for DoD retirees due to that fact that earnings data, an important factor for plan choice, are only available for active employees.

the cost per self-only contract is now only 37 percent of the family contract cost.<sup>44</sup> We apply the 37 percent reduction to the non-overhead portion of the family premium. The resulting family member (FM)-specific premium amount is approximately equal to 67 percent of the family plan premium amounts.

Table 9 provides an example.

**Table 9. Determining the 2014 ADFM Premium Rate**

Plan	Self Only	Family	FM Rate
BCBS Basic (FFS)	\$243.89	\$571.07	\$380.90
BCBS Standard (FFS)	\$284.50	\$642.60	\$428.61
Kaiser Health Plan of Southern California Standard (HMO)	\$166.50	\$384.83	\$256.68

This adjustment applies only to family plans purchased for ADFMs/ADGRFMs/IGRFMs. Sponsors in the remaining beneficiary categories purchase a plan at the self-only or family rate, depending on whether or not they have dependents.

#### **b. Take-Rates**

Benefit take-rates, or the percentage of eligible users reliant on TRICARE, are assumed for each of our beneficiary categories. While these rates are almost 100 percent for ADFMs, other groups such as IGR and retirees have lower user rates.

The take-rates used in this analysis are based on the 2013 beneficiary population. Measuring take-rates for eligible DoD beneficiaries is made complicated by the non-Prime enrollees (those who rely on TRICARE Standard/Extra). Because these users do not enroll, reliance on TRICARE must be inferred. This can be done with survey data from the Health Care Survey of DoD Beneficiaries (HCSDB) or using claims data available through M2.<sup>45</sup> Table 10 shows the baseline take-rate assumed in this analysis for each beneficiary category, its source, and the resulting number of covered beneficiaries.

<sup>44</sup> The weighted average family size for Active Duty families is 3.4 while the average FEHB family size is 2.95. We assume households have two adults, each with the same contract cost (40 percent for FFS and 42 percent for HMOs) and that the remaining cost covers children.

<sup>45</sup> Claims data is not a perfect measure of TRICARE reliance given some beneficiaries will not file a claim in a given year even though TRICARE is their only form of coverage (they simply do not go to the doctor). We therefore prefer to use survey data or information provided from Health Affairs when possible. For smaller beneficiary groups (such as TFL dependents and IGRFMs, we turn to other sources).

**Table 10. Take-Rates and Covered Beneficiaries**

<b>Beneficiary Category</b>	<b>Families</b>	<b>Covered Lives</b>	<b>Baseline Take-Rate</b>	<b>Take-Rate Source</b>
AD	797,665	1,912,283	96.6%	HCSDB
ADGR	82,710	208,062	68.6%	HA
IGR	6,112	14,049	25.0%	HA
RET	869,331	2,122,266	82.9%	HCSDB
OTH	125,445	166,356	82.9%	HCSDB
TFL	241,387	337,601	73% self; 89% family	M2
<b>Total</b>	<b>2,122,649</b>	<b>4,760,617</b>		

Note: ADSM/ADGR/IGR sponsors are not included in the covered lives count. Health Affairs provided the Commission with a spreadsheet containing assumptions on eligible beneficiaries and user rates. This was used when possible for beneficiary groups not available in the HCSDB.

To create an apples-to-apples comparison (comparison of the actual DoD costs for the population to what the costs would be for the same population under the Commission's recommendation), we hold these take-rates constant in our baseline estimate. The Commission requested, and IDA agreed, that the baseline estimates be produced conducting an apples-to-apples comparison on the same population and by not making assumptions about behavioral changes on such items as take-rates. The potential behavioral changes are ambiguous; plan quality is increasing (potentially increasing take-rates) while plan costs are increasing (potentially lowering take-rates). To investigate the impact behavioral responses on take-rates may have, we subject these take-rates to sensitivity analysis in section 3.E.3.

### **c. Premium Cost Share and BAHC Determination**

Under the baseline scenario, DoD pays 72 percent of the premium cost specific to an individual's predicted health plan choice plus a BAHC for all enrolled ADFMs/ADGRFMs/IGRFMs. Family members belonging to these groups who chose not to enroll will still receive a BAHC. For the remaining groups, 80 percent of the health plan-specific premium cost is paid, but no BAHC is granted.<sup>46</sup>

The BAHC depends on the beneficiary's state of residence and is the sum of two components. The first component is a Premium Contribution (PC) towards the 28 percent of the ADFM's premium that remains to be covered. The second component is designed to cover co-pays, deductibles, and other out-of-pocket expenses. The PC is set equal to 28

<sup>46</sup> The Commission directed that IDA use a 20 percent premium cost share for retirees. This was based on the policy decisions of the recommendation to include an explicit recognition of service in the premium cost share determination.

percent of a state-specific plan selected by the median sponsor in that state; therefore, a PC may be larger, smaller, or exactly equal to a specific ADFM's remaining premium balance, depending on their plan choice. Table 11 illustrates how this works for an Active Duty family living in California using the plans shown in Table 10. California's benchmark median plan is BCBS Basic. Active Duty families enrolling in Basic will have their full premium amount exactly covered, while families enrolling in BCBS Standard, a more expensive plan, will have to cover a bi-weekly premium remainder of \$8.66. Alternatively, families enrolling in the Kaiser Health plan will have a bi-weekly savings of \$30.48 that they may pocket.

**Table 11. 2014 Bi-Weekly Premium Rates**

	<b>ADFM Rate</b>	<b>DoD share (72%)</b>	<b>PC (28% of Median)</b>	<b>ADFM contribution (after PC)</b>
BCBS Basic (California Median)	\$380.90	\$274.25	\$106.65	-
BCBS Standard	\$428.61	\$308.60	\$106.65	\$8.66
Kaiser Health Plan of Southern California Standard	\$256.68	\$184.81	\$106.65	(\$30.48)

The second component of the BAHC is set equal to the national civilian benchmark for expenditures on co-pays and deductibles.<sup>47</sup> The 2014 national civilian benchmark is \$919.75 for individuals enrolled in PPOs and \$560.54 for individuals enrolled in HMOs. Our baseline estimates use the PPO benchmark, to be conservative. The BAHC will be a cash transfer. This is critical, as it ensures beneficiaries have ownership over residual allowance amounts not spent on healthcare and thus face incentives that will promote efficient plan selection and care utilization behavior.

## 2. Estimation Results

We begin by presenting our initial unadjusted cost estimate. Recall this estimate reflects premium contributions and a BAHC following the baseline assumptions shown in Table 12. Costs are broken out by beneficiary category.

<sup>47</sup> The 2013 civilian benchmark reported in Bannick et al., *Evaluation of the TRICARE Program* (2014) is constructed based on the Household Component of the Medical Expenditure Panel Survey (MEPS). The value is inflated to obtain the 2014 amount.

**Table 12. Unadjusted Cost (in Millions)**

<b>Category</b>	<b>Premium Cost</b>	<b>BAHC</b>	<b>Total Cost to DoD</b>
ADFM	\$5,625	\$3,037	\$8,662
ADGRFM	\$583	\$443	\$1,026
IGRFM	\$43	\$90	\$133
RET	\$9,746		\$9,746
TFL DEP	\$1,724		\$1,724
OTH	\$86		\$861
<b>Total</b>	<b>\$18,582</b>	<b>\$3,570</b>	<b>\$22,152</b>

The unadjusted estimated cost of the FEHB-like system is \$22.1 billion. However, this estimate is based on the premium rates set specific to the FEHB (not the DoD) population and do not account for retiree VA utilization and OHI; therefore, using this estimate without the adjustments would not be an apples-to-apples comparison to current TRICARE costs. Table 13 presents the unadjusted cost estimate followed by each adjustment required to reach our final cost estimate. Under the Affordable Care Act, a provision known as the Medical Loss Ratio (MLR) requires large group insurers to spend at least 85 percent of premium dollars on medical care. The remainder may cover such items as administrative costs, profits, and overhead. OPM informed IDA that in FEHB, for many large groups, over 90 percent of plan premiums go to medical and pharmacy care. We therefore apply our population-based premium adjustments to 90 percent of the total premium amount so as to reduce only the portion of the premium covering care. It is reasonable to believe that overhead and administrative costs would also be lower for our younger, healthier population, suggesting our adjustments are applied conservatively.

**Table 13. Final Cost Estimates (Millions)**

<b>Estimate is</b>	<b>PRS</b>	<b>PCF*</b>	<b>VAU</b>	<b>OHI</b>	<b>Total Cost to DoD</b>
Unadjusted					\$22,152
Partially adjusted	x				\$21,770
	x	x			\$18,907
	x	x	x		\$18,400
<b>Final Baseline</b>	<b>x</b>	<b>x</b>	<b>x</b>	<b>x</b>	<b>\$18,046</b>

Note: PRS – Population Risk Score; PCF – Population Composition Factor; VAU – VA Utilization; OHI – Other Health Insurance.

\*The AS-PCF is used in the baseline estimates. Estimates based on the RS-PCF will be presented in the sensitivity analysis.

As shown above, the adjustments combined to reduce our initial cost estimate by just over \$4.1 billion, resulting in our final estimate of \$18 billion. The weighted

premiums used to construct these cost estimates are contained in the “Weighted Premiums” section of Appendix B.

### **3. Alternative Cost-Sharing Schemes and Sensitivity Analysis**

The previous section presented all baseline estimates including the final cost estimate of \$18 billion. Here we explore what costs would be if beneficiaries faced a different cost-sharing scheme. Key assumptions made in our baseline estimates are also discussed and subjected to sensitivity analysis. These assumptions include take-rates, the assumptions behind the construction of the PCF, and plan choice. A final analysis considers additional savings that could accrue if DoD were able to maintain the FSS for pharmaceuticals. These analyses show a potential range for our cost estimate of \$13.8 to \$20.4 billion.

#### **a. Alternative Premium Cost-Sharing Scheme**

Cost-sharing schemes designed to encourage employees to switch from higher-cost plans to lower-cost plans are becoming more common among the health benefit programs offered by large employers. Rather than contributing the same fixed percentage of premiums for all available plans, some employers opt to cap their contribution amounts, leaving those who select higher cost plans to bear more of the financial burden. This is the case in FEHB where the fixed 75 percent government premium contribution is capped at a value equal to 72 percent of the weighted average of plan premiums. Under alternative managed competition schemes, employers contribute a fixed dollar amount rather than a percentage typically equal to the cost of a lower-cost plan.<sup>48</sup> In other schemes, contribution amounts may vary depending on plan choice.

Recall, in our baseline model, DoD contributes 72 percent of premiums for ADFMs/ADGRFMs/IGRFMs and 80 percent of plan premiums for the remaining beneficiary groups. Here we examine an alternative cost-sharing arrangement that would reduce DoD’s cost burden by incentivizing efficient plan selection. Under the alternative scheme, DoD would pay a higher portion of the premium amount for lower-priced plans and a lower share of the premium amount for higher-priced plans. To implement this scheme, the set of all available plans was split into five tiers, with the least expensive plans belonging to Tier 1 and the most expensive, Tier 5. We chose to anchor the tier

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<sup>48</sup> See A. C. Enthoven, “The History and Principles of Managed Competition,” *Health Affairs* 12, No. suppl 1 (1993): 24–48, doi: 10.1377/hlthaff.12.suppl\_1.24 for a detailed discussion of Managed Competition. A recent CBO report (*Designing A Premium Support System for Medicare: Analysis of Illustrative Options* (Washington, DC: CBO, September 2013), <https://www.cbo.gov/sites/default/files/09-18-PremiumSupport.pdf>), also contains a thorough discussion of healthcare systems using alternative cost-sharing schemes.

structure to the family plan premium amounts belonging to the three nationally available plans with the highest predicted DoD enrollment (GEHA, BCBS Basic, and BCBS Standard).<sup>49</sup> All plans with premium amounts less than or equal to the GEHA Standard premium are assigned to Tier 1. The highest tier, Tier 5, contains plans with premiums equal to or larger than BCBS Standard, while the middle tier is anchored to BCBS Basic, the plan with the largest predicted enrollment. Table 14 provides the details.

**Table 14. DoD Cost Shares under Alternative Scheme**

<b>Tier</b>	<b>Plan Premium Thresholds (Family Values)</b>	<b>DoD Premium Cost Share (ADFMs)</b>	<b>DoD Premium Cost Share (Retirees)</b>
1	\$438 and Below	80%	90%
2	\$439 to \$570	75%	85%
3	\$571 to \$575	72%	80%
4	\$575 to 641	65%	75%
5	\$642 and Above	60%	70%

Under this scheme, individuals enrolled in Tier 1 and Tier 2 plans will become more costly to the government (relative to the old scheme), while individuals enrolled in Tier 4 and 5 plans become less costly.<sup>50</sup> Holding the original predicted plan choice constant and calculating costs under the new cost-sharing arrangement results in an additional estimated DoD savings of just under \$1 billion. The savings accrue because individuals enrolled in the high cost plans must now make a larger premium contribution (i.e., retirees enrolled in BCBS Standard now contribute 30 percent rather than 20 percent). This effect dominates the cost increase in the government's premium share for those enrolled in lower tier plans. However, we would not expect the same plan choices to prevail under the new cost shares.

The new arrangement alters the cost shares and thus the price faced by many beneficiaries for their initially selected plan as well as the relative prices among plans at different points of the distribution. These changes in relative prices are expected to induce behavioral responses in plan choice. To account for these behavioral responses, a simple methodology to predict plan switching behavior among beneficiaries is developed. It is based on the assumption that some fraction of individuals enrolled in Tiers 2 through 4 will switch their enrollment behavior and enroll in a plan in the next lower tier. To

<sup>49</sup> Several methodologies were considered for selecting the tier thresholds. Setting thresholds was complicated by the fact that there are state, regional, and national plans and because a small number of plans (e.g., BCBS-Standard, BCBS-Basic, GEHA) account for a majority of the enrollment. This made achieving an equal enrollment distribution across tiers impossible.

<sup>50</sup> Appendix B contains data on the weighted premiums and cost shares by tier.



determine the magnitude of the switching behavior we require a value for the elasticity ( $\varepsilon$ ) of health plan choice. The academic literature on health plan choice in managed competition settings has produced a fairly wide range of estimates for this parameter.<sup>51</sup> We select  $\varepsilon = .4$  as our baseline elasticity but consider higher and lower values as well. See Appendix B for detail on our methodology and discussion of the academic literature.

Results indicate an additional net savings increase of \$46 to \$137 million, once behavioral responses are accounted for, depending on the elasticity value. Taking the middle elasticity value ( $\varepsilon = -.4$ ) implies \$1,014 million in overall savings.

**Table 15. Savings from Alternative Cost-Sharing Scheme**

<b>Cost Share Assumptions</b>	<b>DoD Cost (Millions)</b>
Original Cost Share	\$18,046
New Cost Shares (no behavioral response)	\$17,124
New Cost Shares ( $\varepsilon = -.2$ )	\$17,078
New Cost Shares ( $\varepsilon = -.4$ )	\$17,352
New Cost Share ( $\varepsilon = -.6$ )	\$17,032
<b>Total Savings (<math>\varepsilon = -.4</math>)</b>	<b>\$1,014 million</b>

It should be noted that this is a simplistic exercise based on weighted premiums across different tiers. As individuals switch plans, plan enrollment composition and thus premiums would adjust. The analysis is also based on assumed behavioral responses. Consequently, while we believe this excursion is a good approximation of likely impact, the effects of the new cost sharing scheme could differ from the estimates presented here.

#### **b. Take- Rates among Eligible Beneficiaries**

Here, we subject our baseline cost estimate to variations in our take- rate assumptions. ADFMs have historically exhibited a very high TRICARE take-rate, although some do chose to rely on alternative health care—typically coverage provided through a spouse’s employer. Our baseline take-rate was set to 96.6 percent. We now consider the additional cost burden that would result if the actual ADFMs’ take-rate increased by 3.4 percent to a

<sup>51</sup> Anne B. Royalty and Neil Solomon, “Health Plan Choice: Price Elasticities in a Managed Competition Setting,” *Journal of Human Resources* 34, No. 1 (Winter 1999): 1–41. doi: 10.2307/146301; David M. Cutler and S. J. Reber, “Paying for Health Insurance: The Trade-Off between Competition and Adverse Selection,” *Quarterly Journal of Economics* 113, No. 2 (May 1998): 433–466, doi: 10.1162/0033553985555649; and R. Feldman et al., “The Demand for Employment-Based Health Insurance Plans,” *Journal of Human Resources* 24, No. 1 (Winter 1989): 115–142. doi: 10.2307/145935.

100 percent take-rate. Conversely, we also consider the savings if take-rates changed by the same magnitude in the opposite direction. Recall that ADFMs who choose not to enroll in a private health plan still receive the BAHC, so DoD would be providing them compensation to pay the employee's share of a health plan offered through a spouse's employer. Results indicate that varying the take-rate for this group would only increase or decrease costs by \$166 million—approximately 1 percent of our baseline cost estimate.

The family members of the active and inactive Guard and Reserve have lower take-rates than Active Duty Service family members. In Table 16 we present the change in costs that would occur if the non-takers increased or decreased by 30 percent. Results indicate a change in our baseline estimate of roughly \$100 million—less than 1 percent of the baseline estimate.

Predicting the behavior of retirees and the small group of beneficiaries classified as “other” under the proposed reform is more challenging, given this group is more likely to have access to alternative health plans and because take-rates for this population have shown considerable change over the last decade. In 2000, nearly 50 percent of retirees used OHI as their primary form of insurance, relying on TRICARE only as a second payer. However, this number fell to only 20 percent by 2012 as OHI premiums and out-of-pocket costs grew, reducing the relative cost of TRICARE.<sup>52</sup> Under the reform, retirees will face both an increase in price and an increase in choice and quality. Given the uncertainty, we set a wider interval for our sensitivity analysis and explore how the estimated cost would change if retiree non-take rates increased or decreased by 50 percent. As shown in Table 16, we find that varying the retiree take-rate could increase or decrease our cost estimate by just under \$1 billion—approximately 5 percent of our baseline estimate.

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<sup>52</sup> See Philip Lurie, Larry Goldberg, and Susan Rose, “Forecasts and Analysis of TRICARE Health Care Costs,” Briefing to OSD(CAPE), 2012 for more detail on these trends.

**Table 16. Sensitivity to Take-Rates**

<b>Sensitivity to Active Duty Family Member Take-Rates</b>			
Estimated DoD Cost (Millions)	<b>Baseline (96.6%)</b>	<b>Lower (92.8%)</b>	<b>Higher (100%)</b>
	\$18,046	\$17,880	\$18,212
<b>Sensitivity to Guard Family Member Take-Rates</b>			
Estimated DoD Cost (Millions)	<b>Baseline</b>	<b>30% Increase in Non-takers</b>	<b>30% Decrease in Non-takers</b>
	\$18,046	\$17,946	\$18,145
<b>Sensitivity to Retiree Take Rates</b>			
Estimated DoD Cost (Millions)	<b>Baseline (83%)</b>	<b>50% Increase in Non-takers</b>	<b>50% Decrease in non-takers</b>
	\$18,046	\$17,111	\$18,981

Note: The baseline average take-rate for ADGRFMs is 68.6 percent. The baseline take-rate for IGRs is 25 percent.

### c. Population Composition Factor (PCF) Sensitivity

In Section 3.C.2, we introduced a methodology for adjusting premiums to account for plan composition. The methodology required data on the relative cost of covering different age cohorts. We used total healthcare per capita spending by age as a proxy for this variable. However, the per capita spending for the 65+ age group, which averages \$18,424, must be adjusted downward to account for the fact that Medicare is this cohort's first payer. In the baseline analysis, we set this value equal to our estimate of \$9,576. We now explore how our cost estimate would change if we increase or decrease this value by 30 percent.

If the true average cost of treating this population is lower than our baseline estimate, our population correction factor would overstate cost savings from shifting the plan composition to a younger population. Conversely, if the average cost of treating the 65+ cohort is higher than our baseline estimate, our population correction factor would understate cost savings.

**Table 17. Sensitivity to Average Cost of Healthcare for 65+ Cohort**

<b>Average Healthcare Cost-based PCF</b>			
Average Cost used for 65+ cohort	<b>Baseline (\$9,567)</b>	<b>30% Higher (\$9,379)</b>	<b>30 % Lower (\$3,068)</b>
Estimated DoD Cost (millions)	\$18,046	\$16,629	\$19,881
<b>Risk Score based PCF</b>			
Risk Score used for 65+ cohort	<b>Baseline (1.972)</b>	<b>30% Higher (2.564)</b>	<b>30% Lower (1.380)</b>
Estimated DoD Cost (millions)	\$18,557	\$17,112	\$20,425

Results indicate that if spending on the 65+ age cohort is higher, the cost estimate would fall by \$1,417 million—8 percent of the baseline estimate. Conversely, if spending on this group is closer to the youngest cohort, our cost estimate would increase by \$1,835 million—10 percent of the baseline estimate. When the DoD PRS is used, setting the 65+ cohort’s risk score 30 percent higher than the baseline decreases costs by \$1,445 million—8 percent of the baseline. Conversely, setting the 65+ cohort’s risk score 30 percent lower causes costs to increase by \$1,868 million—10 percent of the baseline.

#### **d. Plan Choice**

As previously discussed, plan choice plays a significant role in premium costs and thus the cost to DoD. This analysis used a cohort-grouping methodology to predict the plan enrollment distribution that would result if the DoD population could select among the many health plans available in FEHB. Here we consider how sensitive cost estimates are to plan choice. To do so, we cost out the entire relevant population in a high-cost plan (BCBS Standard), a mid-price plan (BCBS Basic), and a low-price plan (GEHA). Results are shown in Table 18. Results using the actual FEHB premiums with no adjustments are presented in the top half of the table. The bottom part of the table contains results for the fully adjusted premium amounts. If all DoD beneficiaries were to select the highest-priced plans, we could expect our cost estimate to increase by roughly \$1,218 million. Conversely, if DoD beneficiaries selected less expensive plans than expected, our cost estimate could fall by \$4.3 billion.

**Table 18. Sensitivity to Plan Choice (in Millions)**

	<b>Estimated Cost</b>	<b>Baseline Estimate</b>	<b>Cost Difference</b>
BCBS Standard (High)	\$19,264	\$18,046	\$1,218
BCBS Basic (Mid)	\$19,271	\$18,046	\$1,225
GEHA (Low)	\$13,768	\$18,046	(\$4,278)

Note: These estimates include the full set of adjustments (PRS, PCF, VA, and OHI). PCF factors used in this estimate are different from those used in the baseline cost estimate. They are based on the age distribution of the full DoD beneficiary population (rather than the age distribution of the plan’s predicted enrollees).

#### **e. Maintaining the Federal Supply Schedule (FSS) for Pharmaceuticals**

Private health plans such as those offered in FEHB provide pharmacy benefits to their enrollees. DoD purchases pharmaceuticals through the FSS, which is available to direct federal purchasers. The Commission asked IDA to estimate the cost impact of having DoD maintain the responsibility for pharmaceutical benefits. This is a complicated question, given it involves determining the likely premium reduction that

would result if plans offered no pharmacy benefits. Here we develop an approximation of the cost impact of this using the information that was available to IDA at the time of the study.

To determine the likely change in FEHB premium prices that would result from removing pharmaceutical benefits, IDA researchers obtained contract cost data from OPM. The data made available showed that on average, 18 percent of the estimated cost per contract was pharmacy. This percentage is specific to the non-Medicare-eligible active employee population. Plan-specific data on pharmacy costs were not available. It should be noted that this average contract cost likely varies across plans due both to plan design and plan enrollment composition. If we were to assume premium rates would fall by 18 percent on average across all health plans, our total cost estimate would drop to \$15,074 billion—a reduction of just under \$3 billion. While this estimate is based on the best evidence available, it should be viewed as very preliminary, given the uncertainty in the assumption on which it is based.

To calculate the cost of continuing to provide pharmacy benefits through DoD, thus maintaining the FSS, we calculate the cost of pharmacy benefits consumed by the relevant beneficiary population in both direct and purchased care for FY 2013. We then make two adjustments. The first accounts for DoD beneficiaries with OHI. These users have higher per capita pharmacy costs on average than TRICARE-reliant beneficiaries. Because we seek to make a comparison between pharmacy costs when users are fully reliant on FEHB plans versus fully reliant on TRICARE, we adjust these users' costs to equal the per capita costs of beneficiaries without OHI. The second adjustment accounts for the retail pharmacy refund for brand name drugs, which is not reflected in the M2 pharmacy cost data. Table 19 shows the calculations. The final estimated cost of the DoD-provided pharmacy benefit in FY 2014 dollars is just under \$2.3 billion. The difference between the estimated insurance costs of pharmacy and the DoD cost is \$703 million. Sensitivity analysis shows the difference reaches zero if the reduction were less than 15 percent.

**Table 19. Estimate Pharmacy Costs under FEHB vs. DoD**

<b>Estimated Cost of FEHB Pharmacy Benefit</b>	
Baseline Cost Estimate	\$18,046
Cost Estimate with Premiums reduced 18% for pharmacy*	\$15,074
Reduction from Removal of Pharmacy:	<b>\$2,972</b>
<b>Estimated Cost of Current DoD Pharmacy Benefit</b>	
FY 2013 DoD Pharmacy Cost	\$2,960
OHI Adjustment	\$(189)
Retail Pharmacy Refund	\$(587)
Adjusted DoD FY 2013 Pharmacy Cost	\$2,184
Adjusted DoD FY 2013 Pharmacy Cost in FY2014 Dollars	<b>\$2,269</b>
<b>Total Difference</b>	<b>\$703</b>

\*18 percent reduction applied to non-management portion of the premium only.

## **4. Determining the Estimated Cost Savings**

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Chapter 3 developed the estimated cost of providing healthcare to a portion of the DoD beneficiary population through an alternative premium-based insurance model proposed by the Commission. The estimated cost of delivering care under the Commission's proposed reform was \$18 billion annually. To determine whether this constitutes a cost savings or increase, we now require the estimated cost of providing care for this population under the current TRICARE system. This chapter begins by deriving what we call the DoD premium equivalent cost—the current cost of delivering care to the population of interest that would likely be covered by premiums under a premium-based model. This concept is adopted to ensure an accurate comparison. We find the DoD premium equivalent cost is just under \$21.2 billion, suggesting the annual savings from the FEHB-like benefit would likely range between \$2 and \$4 billion.

### **A. DoD Premium Equivalent Cost**

Recall that in Chapter 2, we defined and presented the full cost, budgeted cost, and healthcare cost for the entire DoD beneficiary population broken out by source (direct or purchased). The healthcare cost included the direct costs of care provided in the direct care system and purchased care claims, while the budgeted cost added overhead and readiness costs. In this chapter, we require a concept similar to the budgeted cost but with two modifications.

- The new cost must reflect only the costs of the beneficiary population covered by the reform. In terms of health care services delivered, our population accounted for 47 percent of the dollars spent in the direct care system and 57 percent of the dollars spent in purchased care.
- We must modify the cost concept to reflect costs that would be covered by premiums. This would include budgeted costs associated with overhead and management, the cost of capital, and equipment, but exclude budgeted costs associated with readiness (for example, education and training).

By making these two modifications, we ensure that a true apples-to-apples comparison can be made. We refer to the new cost concept as the DoD premium equivalent cost. This is necessary because the FEHB plan premiums that we used in Chapter 3 cover the entire cost of the FEHB program. Not only do those plan premiums cover the cost of care, they also cover the administrative costs of the insurance companies (e.g., processing claims) and the costs of government program oversight (e.g., the

personnel costs of government employees in the program office, auditors, contracting officers, actuaries, and accountants). It is particularly challenging to develop this premium equivalent cost because, as discussed in Chapter 2, the costs of delivering defense health are spread across the federal budget. For example, the FEHB premiums are being used to cover paying claims that include the full cost of the healthcare providers delivering the care—e.g., if a physician makes \$400,000 per year, this salary is recovered from the claims payments, which are funded from the premium amounts. In DoD, a similar physician may cost the taxpayer \$400,000 per year as well, but only perhaps \$244,000 is captured in the budget attributable to defense healthcare.<sup>53</sup>

Table 20 provides a summary of budgeted costs by budget activity groups included in DHP's Budget for Operations and Maintenance (O&M) and other costs generally considered part of the UMP along with a description of which costs were included or excluded from our DoD premium equivalent cost. It is important to note that the MEPRS cost accounting system captures O&M expenses incurred in the direct delivery of care. In what follows, we consider only the budgeted costs in excess of those reported in MEPRS. It is also important to note that the budget dollars reported for each budget activity group will include MERHCF dollars allocated to direct care. Because our reform does not affect those covered by TFL, we remove MERHCF dollars associated with each budget activity.<sup>54</sup>

The dollars associated with Category A, Healthcare Service Costs, are derived using data from M2. These costs account for over 80 percent of DoD's premium equivalent cost and are documented in greater detail in Section 4.A.1. The dollars associated with the remaining categories are derived from the FY 2013 PB. Section 4.A.2 describes the budget costs we included in the DoD premium equivalent cost, while section 4.A.3 describes the excluded costs.

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<sup>53</sup> \$244,000 is the 2015 composite rate cost of an Army O-6. See FY 2015 Department of Defense (DoD) Military Personnel Composite Standard Pay and Reimbursement Rates at [http://comptroller.defense.gov/Portals/45/documents/rates/fy2015/2015\\_k.pdf](http://comptroller.defense.gov/Portals/45/documents/rates/fy2015/2015_k.pdf).

<sup>54</sup> The total direct care MERHCF allocation was \$1,834 million. We apportion this total across the different budget activity groups by program element and then subtract the apportioned amount.



**Table 20. Costs Included in/Excluded from DoD Premium Equivalent Cost**

	Included (Yes or No): Explanation	Apportion Factor
<b>A. Healthcare Service Costs</b>		
In-House Care		Full cost of care for relevant beneficiary groups as reported in M2
Private Sector Care	<u>Yes</u> : Premiums cover cost of care	
<b>B. Overhead/Management Costs</b>		
Management Activities (Management of Direct and Purchased Care)	<u>Yes</u> : Premiums cover management and overhead expenses	53%
Purchased Care Overhead <sup>a</sup>		89%
<b>C. Other O&amp;M Budget Activities:</b>		
In-House Care (O&M dollars in excess of MEPRS) <sup>b</sup>	<u>Yes</u> : Premiums cover indirect costs associated with care delivery	47%
Consolidated Health Support	<u>No</u> : Primarily readiness	0%
Information Management/ Information Technology (IM/IT)	<u>Yes (partial)</u> : Premiums cover central IT infrastructure	47% of selected Practice Expenses (PEs) <sup>c</sup>
Education and Training	<u>No</u> : Primarily readiness	0%
Base Operations and Communications	<u>Yes</u> : Premiums cover facility restoration, modernization, operations, etc.	47%
<b>D. Other:</b>		
US Family Health Plan (USFHP)	<u>Yes</u> : This is the government's share of premiums paid for non-TFL beneficiaries for healthcare delivered in USFHP	100%
Procurement	<u>Yes</u> : Premiums cover equipment	47%
RDT&E	<u>No</u> : Primarily readiness	0%
MILCON	<u>Yes</u> : Premiums cover rental cost of capital and construction	47%
Full Cost of Manpower (FCOM)	<u>No</u> : Covered by premiums but excluded at request of Commission to provide an additional protection of readiness funding for military personnel.	0%
Judgment Fund	<u>No</u> : Covered by premiums but not paid by DoD	0%
Program Oversight (e.g., OASD(HA), CAPE, Comptroller, and IG staff)	<u>No</u> : Covered by premiums but no estimate readily available.	0%

Note: The relevant beneficiary population accounts for 47 percent of cost of care delivered in the direct care system, 57 percent of purchased care claims, and 53 percent of total care delivery dollars. Purchased care overhead does not cover the TFL population. The factor, 89 percent, is much higher as a result.

<sup>a</sup> Purchased care overhead is calculated as the difference between the purchased care "Budgeted Cost" and "Healthcare Cost" less USFHP and purchased care dental, which we account for separately.

<sup>b</sup> Further detail provided in Section 4.A.1.

<sup>c</sup> We include the Non-central IM/IT and DHP IM/IT support PEs but exclude MHS TRI-Service IM/IT.

## 1. Healthcare Service Costs

To determine the DoD premium equivalent cost specific to our beneficiary population of interest, we begin by determining the cost of healthcare services consumed for each of the relevant beneficiary groups. Using FY 2013 data from M2, we aggregate the cost of care provided in the direct care (DC) system, the amount paid for purchased care (PC) claims, and the cost of pharmaceuticals for our relevant beneficiary population. Totals are shown in Table 21. The total comes to \$18.3 billion in FY 2014 dollars.

**Table 21. Costs of Care by Beneficiary Category and Source of Care (in Millions)**

<b>Beneficiary Category</b>	<b>ADFM</b>	<b>ADGRFM</b>	<b>IGR</b>	<b>RET</b>	<b>OTH</b>	<b>Total</b>
DC Inpatient	\$934	\$29	\$6	\$463	\$23	\$1,455
DC Outpatient	\$2,351	\$88	\$16	\$1,700	\$49	\$4,203
PC Institutional	\$913	\$105	\$23	\$1,423	\$166	\$2,631
PC Non-Institutional	\$2,163	\$334	\$71	\$3,504	\$244	\$6,315
DC/PC Drugs	\$503	\$105	\$20	\$2,089	\$130	\$2,847
DC F Account Drugs	\$25	\$2	\$0	\$82	\$4	\$113
<b>Total</b>	<b>\$6,890</b>	<b>\$663</b>	<b>\$136</b>	<b>\$9,259</b>	<b>\$616</b>	<b>\$17,564</b>
<b>FY 2014 Dollars</b>						<b>\$18,249</b>

Note: Dependents of TFL retirees included in the RET group.

In addition to the healthcare services shown above, we must also consider dental care. There are two dental adjustments that are made. First, under FEHB, some plans offer partial dental coverage (e.g., routine cleanings and diagnostic services) as part of the general health benefit covered by premiums. Our predicted FEHB enrollment indicates roughly that 70 percent of beneficiaries will enroll in plans that provide partial coverage.<sup>55</sup> Under TRICARE, partial dental coverage is not available through the Prime or Standard/Extra (S/E) benefit.<sup>56</sup> However, the majority of ADFMs (roughly 70 percent) chose to purchase full coverage through the TRICARE Dental Program (TDP), which is

<sup>55</sup> The 70 percent estimate was constructed by calculating the percentage of the population enrolled in plans identified as offering dental benefits in Walton Francis, *CHECKBOOK's 2014 Guide to Health Plans For Federal Employees* (Washington, DC: The Center for the Study of Services, 2013). The *Guide* was not a comprehensive list of plans offering dental. It included only national plans such as the BCBS plans and GEHA and some regional HMOs in the DC area. We therefore likely underestimate the extent of partial coverage available in FEHB. Supplemental dental plans are also available for purchase in FEHB.

<sup>56</sup> An exception is that beneficiaries may receive care in MTFs on a space-available basis, which is generally only available at outside the Continental United States (OCONUS) locations.

subsidized by the government at a 60 percent cost share.<sup>57</sup> Without adjustment, this would imply that at least 40 percent of ADFMs under the FEHB-like model would be paying for both partial dental coverage through their healthcare plans and purchasing a separate full coverage dental plan. To prevent this double counting of dental care costs, we adjust the enrollment numbers in the TDP downward so that no ADFM has two plans covering dental care.<sup>58</sup> This means that all beneficiaries in the FEHB-like model end up with dental coverage (some with partial and some with full) as opposed to the current situation, in which 70 percent have (full) dental coverage.

The second dental issue is that some ADFMs receive dental care through the direct care system. With 100 percent of the ADFM population now having some dental coverage and the direct care system now set up to receive payment for services, some of this dental care will be covered by the healthcare or dental plans purchased by ADFMs. In our baseline estimate, 70 percent of ADFMs have healthcare plans with partial dental coverage and 30 percent of ADFMs have healthcare plans with full coverage. We therefore cover the routine dental care for 70 percent of the direct care ADFM family workload and all of the dental care for 30 percent of it.<sup>59</sup> The total amount included in the premium equivalent cost estimate is \$276 million for TDP and \$52 million for direct care dental—\$328 million in total.

There is one additional set of costs associated with In-House Care that must be addressed. The total O&M dollars reported for In-House Care in the PB exceeds the expensed MEPRS cost pulled from M2 for this category. This is because MEPRS reports only expenses incurred in the direct delivery of care. To account for the additional O&M dollars spent indirectly, we calculate the difference between total In-House Care (less MERHCF) reported in the PB and In-House Care O&M reported in MEPRS (approximately \$207 million). We then allocate 47 percent of this amount to the O&M category.

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<sup>57</sup> TDP coverage data are obtained from M2.

<sup>58</sup> We would expect the dental over-insurance would adjust over time, but we make no assumption about through which channel this would occur. For instance, beneficiaries may choose to forgo the full coverage offered by the TDP. Alternatively, if beneficiaries preferred to purchase full coverage, FEHB health plans may stop offering the partial benefit and premiums may adjust downward. Note that this moves the ADFM population from 70 percent with dental coverage to 100 percent with (at least partial) dental coverage.

<sup>59</sup> As with the other adjustments, we are not making assumptions about how these adjustments will occur in the actual implementation of the program, but are attempting to avoid double counting the costs of this care.

## 2. Other Costs Included in the DoD Premium Equivalent Cost

As previously discussed, premiums are designed to cover essentially all costs associated with delivering healthcare. The costs reflected in Section 4.A capture only the value of healthcare services consumed as captured in the DoD healthcare databases. Here we identify additional costs that must be included in our premium equivalent concept to make it an apples-to-apples comparison with the insurance premiums. These include overhead and management expenses, facility operation and maintenance, the procurement of medical equipment such as MRI machines, IT infrastructure, and other costs incurred indirectly in the production of healthcare. For the DHP, all such costs are report in the PB.

Table 22 summarizes the dollar values added to obtain the final DoD premium equivalent cost. The largest categories after Healthcare Services are purchased care (PC) overhead (which includes the cost of administering the TRICARE contracts), O&M dollars, MILCON, and USFHP (the government’s share of premiums paid for USFHP enrollees). The refund DoD receives for retail pharmaceuticals is also accounted for and subtracted from the total cost. The final estimated DoD premium equivalent cost is \$21,301—an amount roughly \$3 billion higher than our estimated cost of delivering benefits for the same population under the FEHB-like model.

**Table 22. Final DoD Premium Cost (in Millions)**

Healthcare Services	\$18,249
Dental	\$328
USFHP	\$439
PC Overhead	\$1,152
O&M	\$908
Management Activities	\$173
MILCON	\$444
Procurement	\$164
Retail Pharm. Refunds	\$(610)
<b>Total</b>	<b>\$21,247</b>

Note: O&M includes the O&M dollars from In-House Care, IM/IT, and Base Operations and Communications.

## 3. Costs Excluded from the DoD Premium Equivalent Cost

Many of the DHP’s budgeted costs were excluded from the DoD premium cost constructed above. Our primary ground for excluding budgeted costs was an association with the medical readiness mission. For instance, Consolidated Health Support is a budget activity that covers functions related to medical readiness including the delivery

of patient care in combat theaters. We therefore exclude the \$2 billion in this budget activity group from our premium support concept. Education and Training is another budget activity we chose to exclude from the DoD premium equivalent cost, along with RDT&E.

In Chapter 2 of this paper, we discussed how the full cost of manpower is not reflected in the budgeted cost of care. The fully burdened cost of manpower was then derived and presented in the “Full Cost” concept. While premiums do cover the full cost of physicians, we chose not to include any of the \$4.4 billion delta between the full cost and budgeted manpower cost, given these costs could partially be considered readiness and because they represent the full cost to the government (not just to DoD). The \$81 million dollar payout by the Treasury Judgment Fund to cover medical malpractice claims was also discussed in Chapter 2. Like the full cost of manpower, the Judgment Fund payout is also excluded from our DoD premium equivalent cost. While such costs would be reflected in premiums, we chose to omit them from the DoD premium equivalent given they are paid by the Treasury and not by DoD.

## **B. Savings Estimate**

With a DoD premium equivalent cost of \$21,247, we estimate a baseline savings of approximately \$3.2 billion.<sup>60</sup> Estimates generally range between \$2 and 4 billion, although some sensitivity analyses found wider ranges. For instance, if one assumes that the Medicare-eligible population in FEHB costs less than we predicted, the resulting premium reduction factor is low and our savings estimate falls to \$822 million. In another excursion, we estimate savings would be just under \$7.5 billion if all beneficiaries were placed in a lower cost plan (using GEHA as the example). Results from the sensitivity analyses presented in Chapter 3 are summarized in Table 23.

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<sup>60</sup> The IDA team estimated savings of \$3.2 billion in FY14 dollars. The Commission set aside \$200 million of that savings for other purposes not analyzed in this report (TRICARE Reserve Select changes and reserve funding for ADFM beneficiaries with catastrophic or chronic conditions). The Commission reports a savings of \$3.0 billion in FY14 dollars (reflected in the Commission report as \$3.2 billion in savings in FY16 dollars).

**Table 23. Summary of Estimated Cost Savings**

	<b>Estimated Cost Under Reform</b>	<b>Current Cost</b>	<b>Estimated Savings</b>
<b>Final Baseline Estimate</b>	\$18,046	\$21,247	\$3,201
<b>Sensitivity to Take Rates:</b>			
Upper Bound	\$18,981	\$21,247	\$2,266
Lower Bound	\$17,111	\$21,247	\$4,136
<b>Sensitivity to Population Adjustment Factor:</b>			
Upper Bound	\$20,425	\$21,247	\$822
Lower Bound	\$16,629	\$21,247	\$4,618
<b>Sensitivity to Plan Choice:</b>			
Upper Bound	\$19,271	\$21,247	\$1,976
Lower Bound	\$13,768	\$21,247	\$7,479
<b>Including Savings from:</b>			
Alternative Cost-Sharing	\$17,032	\$21,247	\$1,976
Pharmacy Excursion	\$17,343	\$21,247	\$7,479

## 5. Discussion of Results

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The previous chapters developed the estimated cost of delivering care for a subset of DoD beneficiaries through a new premium-based insurance model proposed by the Commission as well as the estimated equivalent cost of delivering care to the same set of beneficiaries under the current TRICARE model. Results indicated a potential budgetary savings of \$3.2 billion once the premium-based insurance model is fully phased in. We also estimated that switching to a private insurance model could result in savings as high as \$7.5 billion if beneficiaries were enrolled in lower cost plans. Here we provide additional discussion of these results with a focus on the source of the identified savings. We begin with a brief discussion of why we use GEHA Standard as a comparison plan to the current TRICARE benefit.

### A. Comparison of TRICARE and GEHA Non-Price Quality Attributes

To identify the full potential savings from switching to a private insurance model, the Commission asked IDA to identify a nationally available FEHB FFS plan that appeared approximately equal in non-price quality attributes. Several metrics were identified to measure non-price quality attributes. These included (1) network providers, (2) patient satisfaction, (3) access standards, and (4) covered services.

GEHA Standard seemed a natural candidate for the comparison analysis, given it was the plan with the third-highest predicted DoD enrollment (after BCBS Basic and Standard) but had a relatively low premium cost. The first comparison criterion we considered was the availability of network providers. For this analysis we selected two market areas: (1) Fayetteville, NC (the location of Fort. Bragg); and (2) Phoenix, AZ. Fayetteville was selected to represent a market area with a large military presence, while Phoenix was selected to represent a market area likely to attract retirees but without a military installation. We then selected three specialties to compare: (1) Family Practice, (2) OB/GYN, and (3) Orthopedic Surgery. For each market area and specialty we searched for all available TRICARE and GEHA network providers and assembled a list.<sup>61</sup> We constructed a count of unique providers for each specialty and compared names to identify providers serving both networks. Results are reported in Table 24.

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<sup>61</sup> We performed the search using search tools available on <https://www.geha.com/> (for GEHA) and <http://www.tricare.mil/FindDoctor.aspx> (for TRICARE). We define providers as physicians (MDs) or doctors of osteopathic medicine (DOs).

**Table 24. Provider Network Analysis**

Area	Specialty	TRICARE	GEHA	TRICARE Providers in GEHA Network	GEHA Providers not in TRICARE	Radius (miles)
Fayetteville, NC 28310 (Fort Bragg)	Family Practice	65	132	25 of 65 38%	107 of 132 81%	29
	OB/GYN	36	87	31 of 36 86%	56 of 87 64%	40
	Orthopedic Surgery	15	43	12 of 15 80%	31 of 42 74%	40
Phoenix, AZ 85004	Family Practice	82	129	50 of 82 61%	79 of 129 61%	3
	OB/GYN	111	96	52 of 111 47%	44 of 96 46%	3
	Orthopedic Surgery	56	92	46 of 56 82%	46 of 92 50%	8

Note: The radius refers to the miles in distance from the selected ZIP code. The radius reported is determined by caps set on the maximum number of results allowed in our provider searches. For instance, the GEHA website would only report the 200 closest providers while the TRICARE West website would return the 300 closest providers. Many providers appeared in the results multiple times because they practice at different locations. To make our comparisons, we restricted each network to the same distance radius (before either provider cap was reached).

In general, we found that the GEHA network contains a larger number of providers than the TRICARE network. We also found that a large number of TRICARE providers are also in the GEHA network (between 38 and 86 percent, depending on specialty).

The next metric we considered was patient satisfaction ratings. The HCSDB provides information on TRICARE-eligible beneficiary access and experience with MHS and alternative health plans. The *FY 2014 Evaluation of the TRICARE Program* provides a summary of these survey results. FEHB plans also annually survey a sample of plan members to evaluate their health plan experiences. Here we compare satisfaction ratings for TRICARE and GEHA for questions that are common across both surveys. It should be noted that reporting results from the two different surveys has some potential problems. Specifically, the way enrollees rate their plans may be affected by their age, education level, health status, and other personal characteristics. The scores reported in the *2014 Guide to Health Plans for Federal Employees* are adjusted to account for member characteristics across FEHB plans.<sup>62</sup> We do not have a method available to rescale FEHB survey responses to the DoD beneficiary population. The results shown in

<sup>62</sup> The FEHB Guide notes that characteristic adjustments have a minimal impact on raw score.



Table 25 indicate that GEHA scores above the average of all FEHB plans and that GEHA's satisfaction ratings are slightly higher than TRICARE's. Given the previously discussed issues with comparing the two surveys, we conservatively interpret these results as suggesting the TRICARE and GEHA benefits provide a similar range of consumer satisfaction.

**Table 25. Comparison of Beneficiary Satisfaction Surveys**

<b>HCBD Survey Question</b>	<b>TRICARE (All MHS Users)</b>	<b>FEHB Survey Question</b>	<b>GEHA</b>	<b>FEHB Average</b>
Overall healthcare rating (% rating 8 to 10)	64%	Overall healthcare rating (%rating 8 to 10)	79%	78%
Getting needed care	84%	Getting needed care	91%	87%
Getting appointment with specialist	82%	Seeing a specialist	87%	84%
Getting care quickly	78%	Getting care quickly	90%	86%
Claims processed properly	89%	Claims processing	93%	88%

*Sources: FY 2014 Evaluation of the TRICARE Program and the 2014 Guide to Health Plans for Federal Employees.*

Regarding access standards, GEHA does not require referrals to see a specialist.

Regarding covered services, GEHA offers coverage for the same general benefits covered by TRICARE as well as a few additional benefits not covered by TRICARE (such as chiropractic care and infertility treatments).

## **B. Source of Savings**

Understanding the source of the estimated savings is challenging in the context of this reform, given the Commission's proposal constitutes a fundamental change from the current system. Under the proposal, beneficiary cost shares would change (which would affect utilization) but so, too, would the quality of the overall benefit, management of utilization, hospital efficiency, etc. Isolating the impact of changing cost shares and utilization management is particularly troublesome when the quality of the benefit is not held constant. To address this point, we devised a simple approach to hold quality constant across the reforms and then decomposed the savings into two main sources:

- Savings from increasing beneficiary cost shares; and
- Savings from improved management (which includes both care utilization management and efficiencies gained in overall program management).

The change in beneficiary cost shares is the more transparent factor to identify, given we can calculate the average enrollment and out-of-pocket (OOP) costs facing

beneficiaries under the current system and under the proposed reform. The latter concept, savings from improved management, is calculated as the residual value between the total savings and the savings attributed to increasing beneficiary cost shares.

Our approach for holding quality constant across the reforms requires we identify an FEHB plan comparable to the current TRICARE benefit. In the analysis that follows, we make the simplifying assumption that GEHA Standard represents our “TRICARE benchmark” plan. We believe this assumption is supported by the analysis presented in Section 5.A.

When all beneficiaries are enrolled in GEHA Standard, the estimated cost savings are \$7.5 billion—an amount we consider the full cost savings from switching to private insurance. We now decompose the portion of the \$7.5 billion savings attributable to increasing beneficiary cost shares and the remaining portion which we attribute to improved management. We then discuss how DoD uses a portion of the full savings to increase benefit quality, resulting in a budgetary savings of \$3.2 billion.

## **1. Increased Beneficiary Cost Sharing**

Many recent reform proposals have included policies that would increase the cost shares faced by DoD beneficiaries or a particular subset of beneficiaries such as non-Medicare-eligible retirees. Under the Commission’s proposals, cost shares for beneficiaries will also change. Here we document the resulting average change in cost shares. For this exercise, DoD beneficiaries are aggregated into two main categories:

- Active Duty (AD): Beneficiaries who pay a 28 percent cost share and receive a BAHC (ADFMs/GRDFMs/IGRFMs); and
- RET: Beneficiaries who pay a 20 percent cost share but do not receive a BAHC (RET, OTH, TFL DEPs).

Table 26 shows the aggregate estimated premium and OOP costs incurred by the AD and RET group under TRICARE and the FEHB-like benefit as well as the estimated difference. The BAHC is factored into the AD calculation, which results in no change in premium cost sharing and a negative OOP cost share for AD beneficiaries.<sup>63</sup> We also present estimated premiums for the TRICARE Young Adult (TYA) Program, the TDP, and the TRICARE Retiree Dental Program (TRDP), given beneficiary cost shares for these programs will also be affected. The TYA beneficiaries must pay monthly premiums

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<sup>63</sup> Recall each family will receive a BAHC with a premium contribution equal to 28 percent of the plan selected by the median person in each state. When everyone is enrolled in GEHA, the 28 percent premium contribution is exactly offset by the BAHC. The OOP portion of the BAHC is set equal to \$920, which is higher than the average AD OOP expenditure.

to obtain coverage through the TRICARE Prime or Standard benefit. Under FEHB, these users are covered by their family's premiums. For dental, partial coverage is provided for most beneficiaries under FEHB at no additional premium cost. The aggregate dollar values under the current TRICARE program represent the premiums that beneficiaries are currently paying to TDP and TRDP. The premiums listed in the FEHB column also represent the premiums beneficiaries pay for these programs. The premium amount is lower because user rates fall, given many beneficiaries receive partial coverage through FEHB. Appendix C contains details on the calculations used to arrive at the aggregate values in Table 26.

**Table 26. Aggregate Beneficiary Cost Shares under TRICARE and FEHB (GEHA Only) in Millions**

	<b>TRICARE</b>	<b>FEHB</b>	<b>Delta</b>
<b>PREMIUM/Enrollment Fees</b>			
AD PREMIUM	-	-	-
RET Premium	\$378	\$1,952	\$1,574
TYA Premium	\$67		\$(67)
<b>OOP Costs</b>			
AD	\$146	\$(23)	\$(168)
RET	\$816	\$1,901	\$1,085
<b>Premiums for Dental Programs</b>			
TDP Premium	\$212	\$91	\$(121)
TRDP Premium	\$787	\$649	\$(139)
<b>Totals</b>	<b>\$2,406</b>	<b>\$4,570</b>	<b>\$2,164</b>

The overall resulting increase in beneficiary cost sharing under the FEHB plan is \$2.2 billion when all beneficiaries enroll in the health plan approximately equal to the TRICARE benefit in terms of quality. This represents 29 percent of the \$7.5 billion savings.

## **2. Improved Management**

In Section 5.B.1, we showed that roughly 29 percent of the overall savings could be attributed to increasing beneficiary cost shares. We consider the remaining 71 percent of savings (roughly \$5.3 billion) to be savings generated from improved program management. While improved program management is a rather general concept, it most likely stems from two main sources. The first is the improved management of beneficiary care utilization and beneficiary health outcomes, which is key to the success of private health insurers. Given dollars spent directly in the delivery of care account for over 80 percent of DoD costs, this factor is the main source of the improved management savings.

The other source of the savings stems from more efficient program management—reducing program overhead and management expenses.

### **3. Investment in Improved Benefit Quality**

The \$7.5 billion savings approximates the savings that could be generated by switching to a private health insurance model that offers a benefit roughly comparable in quality to the current TRICARE benefit. However, under the Commission’s proposed reform, DoD would not realize this full potential savings. Instead, the Department would invest \$4.3 billion of the savings into improving the quality of the benefit. This quality improvement is achieved by allowing beneficiaries to select higher quality plans, which increases the Department’s premium burden. Once the quality improvement is accounted for, DoD’s estimated final budgetary savings is the remaining \$3.2 billion. Beneficiaries would also contribute to the quality increase through increased premiums. We estimate the marginal increase in beneficiary cost shares would be \$489 million. The total investment in improving benefit quality is therefore \$4.8 billion.

## **6. Conclusion**

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IDA was asked to support the MCRMC by performing analytically sound research to assist the Commission's considerations of potential modifications to the provision of health-related services.

As part of this analysis, the Commission asked IDA to develop the estimated steady state cost of providing healthcare for a subset of DoD beneficiaries through a premium-based insurance model consistent with an employer-sponsored benefit program offering a cafeteria-style menu of private health plans. The envisioned healthcare design was to be modeled after the FEHB program, which contains over 200 private health plans and currently provides benefits to over 8 million beneficiaries (federal civilian employees, federal civilian annuitants, and the dependents belonging to these beneficiary groups).

Using the observed enrollment behavior of the FEHB civilian population in conjunction with demographic data on the DoD beneficiary population, we developed a simple cohort-based methodology to predict the plan enrollment behavior that would result if DoD were to purchase healthcare through an FEHB-like program. A series of analytically derived adjustments to FEHB plan premiums to reflect the health risk of the DoD population was also developed. Plan choice and premiums were then used to construct the total cost of covering the relevant beneficiary population through an FEHB-like model. The final cost estimate suggests the population could be covered for approximately \$18 billion per year.

After estimating the cost of delivering care through the FEHB-like model, we next developed the estimated cost of covering the same beneficiary population under the current TRICARE model. To ensure a fair apples-to-apples comparison was made, we developed a cost concept called the DoD premium equivalent cost. This concept reflected all costs incurred while delivering care that would be covered by premiums under a private health insurance model. The DoD premium equivalent cost was estimated to be approximately \$21.2 billion, suggesting likely cost savings in the range of \$2 to \$4 billion with a best estimate of just over \$3 billion.



## **Appendix A.**

### **MHS Data**

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#### **Key Data Sources**

##### **Expense Assignment System Version IV (EAS IV) Repository**

The Expense Assignment System Version IV (EAS IV) Repository is a query system, similar to the MHS Management Analysis and Reporting Tool (M2), that houses detailed financial and manpower data from the Medical Expense and Performance Reporting System (MEPRS). MEPRS is the Tri-Service financial accounting system, reporting DoD-standardized (across the Services) expense, staffing, and summary workload data for fixed military medical and dental treatment facilities. In this paper, we use MEPRS expense and staffing data, but not workload data. MEPRS workload data are too aggregated for our purposes; we use encounter-level data from M2 instead.

MEPRS provides data by Functional Cost Code (FCC), a four-level hierarchical accounting system representing work centers or reporting facilities. The first letter of each FCC identifies the broadest level of service provided:

- A: Inpatient Care
- B: Outpatient Care
- C: Dental Care
- D: Ancillary Services
- E: Support Services
- F: Special Programs
- G: Medical Readiness

Subsequent letters identify work centers in greater detail, e.g., BC identifies Obstetrical and Gynecological Care and BCA identifies the Family Planning Clinic. The first three letters of the FCC are standardized across DoD, whereas the fourth letter is MTF-specific.

Accounts A, B, C, F, and G are referred to as final operating accounts, whereas accounts D and E are intermediate, or “stepdown,” accounts. Expenses from the Ancillary and Support accounts are allocated (stepped down) proportionately across the final accounts based on performance factors established by DoD. At the end of the allocation process, no expenses remain in the intermediate accounts.

### **Military Health System Data Repository (MDR)**

The MHS Data Repository (MDR) is a data warehouse containing the most complete collection of data about beneficiaries of the MHS and their healthcare. The MDR receives data from a wide variety of sources throughout DoD and processes these data according to a set of published business rules. Information in the MDR is accessible as statistical analysis system datasets or as American Standard Code for Information Interchange (ASCII) flat files. The environment has no user interface in the traditional sense; it is intended for expert programmers and analysts only. Detailed information about the MDR, including the types of data that are included and a data dictionary, can be found at <http://tricare.mil/tma/dhcape/data/fs.aspx>.

### **Military Health System Management Analysis and Reporting Tool (M2)**

M2 is a powerful ad hoc query tool used to manage and oversee operations from all MHS regions worldwide. It is based on software called Business Objects, which give the user the ability to query the data objects in the M2 universe and to analyze and report the results. Data objects include both summary and detailed population, clinical, and financial data. The clinical data include information on inpatient, outpatient, pharmacy, laboratory, and radiology services at Military Treatment Facilities (MTFs) as well as private-sector claims for inpatient, outpatient, pharmacy (including home delivery), and ancillary services. The financial data include summary expense and manpower information from MEPRS. M2 offers a quick and economical way to access large amounts of data and to display results in conveniently formatted tables or to export the data to other software for more detailed analysis. Many of the data included in the MDR are available in M2 in a much more accessible form. Data from M2 are the source for most of the tables and charts in this paper. More detailed information about M2, including the types of data that are included and a data dictionary, can be found at <http://tricare.mil/tma/dhcape/data/fs.aspx>.

### **Workload Measures**

The most basic measures of outpatient and inpatient workload are the number of encounters (visits) and number of hospital stays, respectively. However, these basic measures are flawed because they do not account for the variation in relative resource intensity across different procedures. For example, a thoracic spinal fusion is far more resource-intensive and costly than the removal of a heel spur, yet they both count as one encounter.

Before 1992, Medicare followed a “usual, customary and reasonable” payment method to reimburse physicians for their services. That led to inequities in payments for the same service provided by different physicians. To remedy that shortcoming, Medicare developed a measure of outpatient resource intensity, called a Relative Value Unit



(RVU), as a basis for physician reimbursement. Distinct RVU values are recorded for each medical, surgical, and diagnostic service included in the Current Procedural Terminology (CPT) code set.

An RVU is the sum of three components: a Work RVU, a Practice Expense (PE) RVU, and a Malpractice Expense RVU. The Work RVU accounts for the time, effort, technical skill, etc. required by a physician to perform a particular service; it accounts for about 52 percent of the total RVU. The Practice Expense RVU accounts for a physician's office expenses, such as office space, clinical staff, and administrative overhead (e.g., billing and claims filing); it accounts for about 44 percent of the total RVU. The Malpractice Expense RVU takes into consideration the cost of professional liability insurance and accounts for the remaining 4 percent of the total RVU. Every few years the RVU measures are recalibrated to account for changes in medical practice and technology.

Both the total RVU and its components<sup>1</sup> are included in the direct and purchased care outpatient data records. However, there is no Malpractice Expense RVU in the direct care encounter data because military physicians are protected from medical malpractice lawsuits.<sup>2</sup> To make RVU measures commensurate between direct and purchased care, the MHS excludes Malpractice Expense RVUs from total purchased care RVUs (i.e., they are included in the purchased care claims data but are not part of the total RVU). The MHS also makes adjustments to the RVUs for some direct care procedures to accommodate MHS-unique coding and to value services for which TRICARE pays but Medicare does not (e.g., LASIK eye surgery). Weights are also adjusted downward for global procedures<sup>3</sup> to avoid over-crediting MTFs due to different data reporting practices from those used in the private sector. Practice Expense RVUs are also lower for direct care partly because the government bears lower administrative costs for claims filing<sup>4</sup> than does the private sector.

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<sup>1</sup> The MHS actually uses several different RVU measures, each suitable for different purposes. For example, different RVU measures variously apply multiple procedure discounts, multiple provider discounts, and may be subject to unit of service and modifier impacts.

<sup>2</sup> Medical malpractice claims cannot be filed against individual providers; they must be filed against the Military Departments.

<sup>3</sup> Global procedure codes cover more than one day of care and include such items as post-operative follow-ups, prenatal and postpartum care, etc. Under Medicare and in the private sector, RVUs for a global procedure already account for the value of the procedure and any pre/post care. However, MHS coding rules require providers to code and value the pre/post care separately. Accordingly, the MHS adjusts the RVU values for global procedures so they sum to the ones used by Medicare.

<sup>4</sup> The government files third-party claims with commercial insurers to receive reimbursement for care provided to beneficiaries with other health insurance (OHI). In FY 2013, third-party collections totaled \$154.5 million ([http://www.tricare.mil/ocfo/\\_docs/Final\\_6\\_yr\\_qc\\_Q4\\_2013.xlsx](http://www.tricare.mil/ocfo/_docs/Final_6_yr_qc_Q4_2013.xlsx)).

RVUs apply only to the provider portion of a healthcare encounter. A similar concept, called Ambulatory Payment Classifications (APCs), applies to facility charges (e.g., ambulatory surgery centers, hospital emergency rooms) and is subject to quantity, multiple procedure discounting, and modifier impacts. Medicare uses APCs to reimburse facilities paid under its Outpatient Prospective Payment System (OPPS). In May 2009, TRICARE adopted APCs as a basis for facility reimbursement under its own OPPS.

A similar concept to RVUs (Relative Weighted Products, or RWPs) exists for inpatient services as well. Based on Medicare Severity Diagnosis Related Group codes, RWPs measure the relative complexity of services and resources used by acute-care inpatient facilities. They do not account for the amount and intensity of inpatient professional services (i.e., services provided in an inpatient facility by a physician or other medical professional that are billed separately from the inpatient facility); those are measured by RVUs in the same manner as for outpatient services.

## **Appendix B.**

### **Summary Data for Alternative Benefit Model**

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#### **DoD Income**

DoD sponsors are grouped into the same income categories as the FEHB population, based on the sponsor's rank. For retirees, rank upon retirement is used. To arrive at an income amount comparable to civilian earnings, we use regular military compensation (RMC), which consists of average basic pay (BP), the rank-specific basic allowance for housing (BAH) and the rank-specific basic allowance for sustenance (BAS). Basic pay is drawn from the DoD Comptroller's "FY 2013 Department of Defense Military Personnel Composite Standard Pay and Reimbursement Rates" document. BAH and BAS data are drawn from FY 2011 CAPE data files that feed into the Full Cost of Manpower (FCOM) tool. We inflated these data to FY 2013 dollars. This information is found in Table B-1.

**Table B-1. DoD Income and Rank Crosswalk**

	<b>Rank</b>	<b>Basic Pay (Average)</b>	<b>BAH</b>	<b>BAS</b>	<b>Cash Total</b>
Less than 35,000	E1	\$ 18,129	\$ 9,932	\$4,252	\$ 32,313
	E2	\$ 20,319	\$ 9,932	\$4,252	\$ 34,503
35,000 to 49,999	E3	\$ 21,668	\$ 9,932	\$4,252	\$ 35,852
	E4	\$ 26,436	\$12,982	\$4,252	\$ 43,670
50,000 to 64,999	E5	\$ 33,060	\$13,986	\$4,252	\$ 51,298
	O1	\$ 38,381	\$14,247	\$2,928	\$ 55,556
	E6	\$ 39,961	\$16,479	\$4,252	\$ 60,692
65,000 to 79,999	WO1	\$ 48,080	\$16,479	\$2,928	\$ 67,487
	O2	\$ 50,131	\$16,441	\$2,928	\$ 69,500
	E7	\$ 49,854	\$17,223	\$4,252	\$ 71,329
	WO2	\$ 54,779	\$17,483	\$2,928	\$ 75,190
80,000 to 94,999	E8	\$ 59,271	\$18,004	\$4,252	\$ 81,527
	WO3	\$ 65,966	\$18,487	\$2,928	\$ 87,381
	O3	\$ 66,070	\$18,450	\$2,928	\$ 87,448
95,000 to 109,999	E9	\$ 75,140	\$19,231	\$4,252	\$ 98,623
	WO4	\$ 81,293	\$19,492	\$2,928	\$103,713
	O4	\$ 83,841	\$21,166	\$2,928	\$107,935
110,000 to 144,999	WO5	\$ 98,613	\$20,682	\$2,928	\$122,223
	O5	\$100,259	\$22,951	\$2,928	\$126,138
145,000 to 179,999	O6	\$123,035	\$23,211	\$2,928	\$149,174
	O7	\$146,062	\$23,435	\$2,928	\$172,425
180,000 and up	O8	\$167,741	\$23,435	\$2,928	\$194,104
	O9	\$180,375	\$23,435	\$2,928	\$206,738
	O10	\$180,375	\$23,435	\$2,928	\$206,738

## Average Cost of Healthcare

In Section 3.C.2, we developed a population composition premium adjustment to account for the differences that would exist in the age composition of plan enrollment between the FEHB and DoD populations. The methodology required data on average healthcare costs by age group. To meet this requirement, data from the Centers for Medicare and Medical Services (CMS) was used. Average per capita health care spending is used as a proxy for each age group's cost. The raw data shown in Table B-2 were broken into wider age cohorts than those used for our analysis.

**Table B-2. Total Personal Healthcare per Capita Spending**

Age Group	Average Spending
0-18	\$ 3,628.00
19-44	\$ 4,422.00
45-64	\$ 8,370.00
65+	\$18,424.00

Source: Centers for Medicare and Medical Services,  
Office of the Actuary, National Health Statistics  
Group.

To obtain estimates of the average national healthcare cost for the age cohorts used in this analysis, we obtained the national population age distribution and fit a polynomial model to predict the healthcare cost for every age under 65. The predicted values were then averaged by age cohorts.<sup>1</sup> The results for the under-65 groups are shown in Table B-3 and can be found in Section 3.C.2 of the main body of this paper.

**Table B-3. Estimated Average Per Capita Healthcare Spending**

Age	Average Spending
17-23	\$3,068
23-34	\$4,054
35-44	\$5,696
45-54	\$7,323
55-64	\$9,379

As discussed in Chapter 3, we must adjust the average spending value for the 65+ cohort to account for the fact that Medicare is the first payer. The methodology we adopt here attempts to identify and subtract the portion of the \$18,424 average healthcare spending that would be covered by Medicare. To perform this calculation, we required data on the share of the FEHB 65+ cohort enrolled in Medicare Part A only, enrolled in Medicare Part A & B, and non-enrolled. We also had to account for the fact that some plans are purchased for split families—those containing one Medicare-eligible beneficiary and at least one non-Medicare-eligible dependent (typically a spouse). Those in the 65+ cohort who are non-enrolled are assumed to cost the full \$18,424. Beneficiaries enrolled only in Part A are assumed to cost \$13,733 (the estimated outpatient cost).<sup>2</sup> Beneficiaries enrolled in Medicare Part A & B are assumed to cost only

<sup>1</sup> The prediction equation was  $y = .0033x^4 - .5221x^3 + 30.942x^2 - 654.4x + 7400.9$ .

<sup>2</sup>  $13,733 = (1-.37) * (\text{full cost}) + (1-.69) * .37 * (\text{full cost})$ .

\$8,195.<sup>3</sup> The overall weighted average for the 65+ cohort is \$9,948. These calculations are shown in Table B-4.

**Table B-4. Calculating 65+ Cohort Spending Less Medicare's Contribution**

	<b>FEHB Shares</b>	<b>Share Adjusted for Split Families</b>	<b>Average Spending</b>
<b>Beneficiary Enrollment Type:</b>			
Split Families	n/a	15%	\$9,379
No Medicare	4%	3%	\$18,424
Part A only	18%	15%	\$13,733
Medicare A+B	78%	66%	\$8,195
Calculated Percentages:			
<b>Total Hospital Spending as a Share of Total Spending:</b>			37%
Total Medicare Hospital Spending as a Share of Total Medicare Spending			69%
Total Medicare Spending as a Share of Total Spending			56%
<b>Weighted Average:</b>			<b>\$9,567</b>

Note: 1 percent of FEHB beneficiaries are enrolled in Medicare Part B only. We included them in the Medicare Part A+B group for simplicity.

## Age and Income Distributions for the DoD and FEHB Populations

The first demographic used to construct our AI&S cohorts is age.<sup>4</sup> Table B-5 shows age distribution of the FEHB active employee population as well as the DoD AD, RET, and total populations. From the table, it is apparent that the DoD military population is significantly younger than the FEHB population. For example the 0–24 age group accounts for less than 1 percent of the FEHB population but over 20 percent of the total DoD beneficiaries.

<sup>3</sup>  $8,195 = (1 - .56) * (\text{full cost})$ .

<sup>4</sup> Data used to construct the AI&S cohorts are based only on the active employee population. The data presented in Table B-5 and Table B-6 therefore show smaller total FEHB population counts than Table 2 and Table 4, which include all FEHB contract holders (active employees plus annuitants). The data on the active employee population and the entire FEHB population come from two separate sources.

**Table B-5. Age Distribution**

Age	FEHB Active Employees		DoD Beneficiaries			
	Civilian Employees	Percent	AD	Ret	Total DoD	Percent
0–24	7,342	0%	600,813	11,564	612,377	21%
24–34	276,492	15%	660,718	35,180	695,898	24%
35–44	404,446	22%	327,681	104,307	431,988	15%
45–54	602,232	33%	90,675	428,040	518,715	18%
55–64	473,731	26%	8,419	587,069	595,488	21%
65–74	59,174	3%	167	4,652	4,819	0%
75 & up	941	0%	101	3,633	3,734	0%
<b>Total</b>	<b>1,824,358</b>		<b>1,688,574</b>	<b>1,174,445</b>	<b>2,863,019</b>	

Note: Plan enrollment data were unavailable for 4 percent of the FEHB contact holders in our data due to small cell size. These individuals are excluded from the age distribution shown above.

Table B-6 shows the income distribution for each population. Again there is a significant difference between the two populations, with the DoD population having more beneficiaries concentrated at the lower end of the income distribution.

**Table B-6. Income Distribution**

Income	FEHB Active Employees		DoD Sponsors			
	Civilian Employees	Percent	AD	Ret	Total DoD	Percent
Less than 34,999	34,745	2%	167,297	8,015	175,312	6%
35,000 to 49,999	261,712	14%	540,129	57,202	597,331	21%
50,000 to 64,999	620,211	34%	521,151	336,722	857,873	30%
65,000 to 79,999	268,716	15%	182,952	354,757	537,709	19%
80,000 to 94,999	206,645	11%	138,585	168,847	307,432	11%
95,000 to 109,999	162,076	9%	79,637	124,626	204,263	7%
110,000 to 150,000	200,732	11%	57,621	122,295	179,916	6%
Greater than 150,000	69,521	4%	1,202	1,981	3,183	0%
<b>Total</b>	<b>1,824,358</b>		<b>1,688,574</b>	<b>1,174,445</b>	<b>2,863,019</b>	

Note: Plan enrollment data were unavailable for 4 percent of the FEHB contact holders in our data due to small cell size. These individuals are excluded from the income distribution shown above.

## Weighted Premiums

Table B-7 shows the weighted premiums used to construct the final unadjusted and adjusted cost estimate. The unadjusted premium is the average FEHB premium rate weighted by predicted enrollment in each health plan. The weighted premium with PCF

adjustment is the weighted average after the plan-specific PCF factors are applied to the raw FEHB premium. Weighted premiums are constructed separately for the beneficiary groups receiving a 72 percent government contribution and BAHC, and the beneficiary groups receiving an 80 percent government contribution.

**Table B-7. Weighted Premiums (Full Amount and Government's Share)**

Unadjusted Weighted Premium				Weighted Premium With PCF Adjustment			
	Self	Family	AD Rate		Self	Family	AD Rate
ADFM/GRDFM/IGRFM				ADFM/GRDFM/IGRFM			
100%	\$236	\$565	\$377	100%	\$200	\$482	\$322
72%	\$170	\$407	\$271	72%	\$144	\$347	\$232
BAHC Premium Contribution			\$106	BAHC Premium Contribution			\$90
RET/TFL DEP/OTH				RET/TFL DEP/OTH			
100%	\$267	\$603	N/A	100%	\$233	\$525	N/A
80%	\$213	\$482		80%	\$186	\$420	

## Predicting Behavioral Responses to Alternative Cost-Sharing Scheme

In Section 3.E.3.a, we presented results for the cost of covering the beneficiary population under an alternative cost-sharing scheme that was expected to induce behavioral responses in plan choice. Here we provide detail on the simple methodology we developed to predict those behavioral responses.

We began this analysis by grouping all plans into the five tiers shown in Table B-8 based on their current predicted DoD enrollment. Tier-specific cost shares were also assigned. We then constructed a weighted premium amount for each tier using the assigned cost shares. The table shows the weighted premium for each tier, the government cost share for each tier under the baseline cost-sharing scheme, the new cost share under the tiered pricing, and the tier-specific PCF. The overall weighted averages are also presented.



**Table B-8. Weighted Premiums and Cost Shares by Tier**

Government Contribution for ADFM Premiums							
Tier	Self Only			Family			Tier PCF
	Premium	80% share	Tier share	Premium	72% share	Tier share	
1				\$271	\$195	\$217	24%
2				\$322	\$232	\$241	26%
3		Not Applicable		\$343	\$247	\$381	\$274
4				\$401	\$289	\$261	17%
5				\$435	\$313	\$261	13%
<b>Weighted</b>				<b>\$377</b>	<b>\$271</b>	<b>\$260</b>	<b>17%</b>

Government Contribution for Retiree Premiums							
Tier	Self Only			Family			Tier PCF
	Premium	80% share	Tier share	Premium	80% share	Tier share	
1	\$183	\$147	\$165	\$421	\$337	\$379	22%
2	\$223	\$179	\$190	\$507	\$406	\$431	20%
3	\$244	\$195	\$195	\$571	\$457	\$457	16%
4	\$266	\$213	\$200	\$602	\$481	\$451	15%
5	\$291	\$233	\$203	\$655	\$524	\$458	13%
<b>Weighted</b>	<b>\$266</b>	<b>\$213</b>	<b>\$197</b>	<b>\$602</b>	<b>\$482</b>	<b>\$451</b>	<b>14%</b>

Note: The Active Duty family premium is the rate constructed for families without a sponsor.

Next we calculated the tier-specific relative price change defined as:

$$\% \Delta P = \frac{(p_{A_t} - p_{A_{t-1}}) - (p_{B_t} - p_{B_{t-1}})}{(p_{B_t} + p_{B_{t-1}})/2},$$

where  $P_{i_t}$  is the beneficiaries' cost share under cost-sharing scheme  $i$  (A=alternative, B=baseline) and  $t$  is the beneficiaries' current tier. In the numerator,  $(p_{A_t} - p_{A_{t-1}})$  is the savings that could be realized if an enrollee switched to a plan one tier below their current tier under the alternative cost-sharing scheme, and  $(p_{B_t} - p_{B_{t-1}})$  gives the same savings under the baseline cost-sharing scheme. The denominator is the average price for the two tiers under the original scheme. We calculate no relative price change for the retirees in the bottom tier because they face no cheaper option.

To calculate the change in each tier's population following the change in relative price, we required price elasticities for health plan choices. The academic literature on health plan choice in managed competition settings has produced a fairly wide range of

estimates for this parameter.<sup>5</sup> Estimates typically range from 0 to -.6, although some have been larger. For this analysis, an elasticity of  $\varepsilon = -.4$  is selected for our baseline model.

To derive the predicted quantity change for each tier,  $\% \Delta Q_t$ , we set  $\varepsilon = \% \Delta Q_t / \% \Delta P_t$  and solve.

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<sup>5</sup> Royalty and Solomon, “Health Plan Choice”; Cutler and Reber, “Paying for Health Insurance”; and Feldman et al., “The Demand for Employment-Based Health Insurance Plans.”

## Appendix C.

### Data for Source of Savings Calculations

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Table 26 (on page 51) contains the estimated aggregate sum of all beneficiaries' premium and OOP contributions under TRICARE and FEHB. The aggregate TRICARE amounts were calculated as weighted averages. For the general TRICARE health benefit, TYA, and OOP expenditures, the weights were based on the fraction of the population enrolled in Prime versus S/E. Table C-1 contains the annual premiums and average OOP expense for Prime and S/E, as well as the weighted average.

**Table C-1. Annual Premiums and Average OOP Expenses**

<b>2014 Annual TRICARE Health Benefit Premiums and Enrollment Fees</b>				
		<b>Prime</b>	<b>S/E</b>	<b>Weighted</b>
AD	Family	-	-	-
RET	Self Only	\$274	-	\$187
	Family	\$548	-	\$375
TYA	Individual	\$2,160	\$1,872	\$2,043
<b>2014 Average Annual OOP Expenses</b>				
		<b>Prime</b>	<b>S/E</b>	<b>Weighted</b>
AD	Average	\$97	\$479	\$164
RET	Average	\$454	\$1,105	\$660

Note: For AD, 82 percent of users are enrolled in Prime and 18 percent are S/E users. For RET, 68 percent of users are enrolled in Prime and 32 percent are S/E. For TYA, 59 percent of users are Prime and 41 percent are S/E.

Dental premiums were more complicated to construct. For the TRDP, premiums vary across five different regions and family sizes (individual, two, and three or more). We use the average premium for all regions and use average family size to create a weighted family premium amount. The annual estimated average premium is \$404 (\$1,305) for self (family) plans. The take-rate under TRICARE is 65 percent. We assume it falls to 54 percent under FEHB.

The TDP amount was calculated based on the reported \$318 million in premiums DoD contributed to the program. The aggregate beneficiary contribution was \$212 million and an estimated \$91 million under FEHB (given the decline in takers).<sup>1</sup>

The aggregate FEHB amounts shown in Table 26 (on page 51) are based on the GEHA premium and the civilian PPO benchmark for OOP expenditures. These values are shown in Table C-2 along with the weighted average premium amount and OOP expense expected when beneficiaries can enroll in any plan. The “All Plans” average is weighted by the predicted DoD enrollment.

**Table C-2. Estimated Premiums and OOP Expenditures for GEHA Only and All Plans**

<b>2014 Annual TRICARE Health Benefit Premiums and Enrollment Fees</b>			
		<b>GEHA (with BAHC)</b>	<b>All Plans Weighted (with BAHC)</b>
AD	Family	-	\$(2)
RET	Self Only	\$874	\$1,210
	Family	\$1,988	\$2,727
<b>2014 Average Annual OOP</b>			
		<b>GEHA (with BAHC)</b>	<b>Weighted (with BAHC)</b>
AD	Average	\$(25)	\$ (110)
RET	Average	\$1,538	\$1,404

When the total premium and OOP expenditure is calculated using the values in the “All Plans” column, total beneficiary contributions rise to \$2,875 million. The difference between this value and the \$2,063 million we obtain when the GEHA values are used is the increased beneficiary contribution for higher quality plans—\$811 million.

<sup>1</sup> If the government contributes 60 percent of the TDP premium amount and the aggregate value of this contribution is \$318 million, it follows that beneficiaries contribute approximately \$212 million ( $212 = (318 / .6) * .4$ ). We estimate 43 percent of users will continue to take the benefit under FEHB.

## Illustrations

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## Abbreviations

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AD	Active Duty
ADFM	Active Duty Family Member
ADGR	Active Duty Guard/Reserve
ADGRFM	Active Duty Guard/Reserve Family Member
ADSM	Active Duty Service Member
AE	Active Employee
AI&S	Age, Income, and State
AN	Annuitant
APC	Ambulatory Payment Classification
ASCII	American Standard Code for Information Interchange
AS-PCF	Average Spending Factor
BAH	Basic Allowance for Housing
BAHC	Basic Allowance for Healthcare
BAS	Basic Allowance for Sustenance
BCBS	Blue Cross/Blue Shield
BP	Basic Pay
CMS	Centers for Medicare and Medical Services
CPT	Current Procedural Terminology
DC	Direct Care
DEERS	Defense Enrollment Eligibility Reporting System
DHA	Defense Health Agency
DHP	Defense Health Program
DoD	Department of Defense
EAS IV	Expense Assignment System Version IV
FCC	Functional Cost Code
FCOM	Full Cost of Manpower
FEHB	Federal Employees Health Benefits
FFS	Fee for Service
FM	Family Member
FSS	Federal Supply Schedule
GEHA	Government Employees Health Association

HCSDB	Health Care Survey of DoD Beneficiaries
HMO	Health Maintenance Organization
IDA	Institute for Defense Analyses
IG	Inspector General
IGR	Inactive Guard/Reserve
IGRFM	Inactive Guard/Reserve Family Member
IM/IT	Information Management/Information Technology
M2	MHS Management Analysis and Reporting Tool
MCRMC	Military Compensation and Retirement Modernization Commission
MDR	MHS Data Repository
MEPRS	Medical Expense and Performance Reporting System
MEPS	Medical Expenditure Panel Survey
MERHCF	Medicare-Eligible Retiree Healthcare Fund
MHS	Military Health System
MILCON	Military Construction
MILPERS	Military Personnel
MLR	Medical Loss Ratio
MS-DRG	Medical Severity Diagnosis Related Group
MTF	Military Treatment Facility
NDAA	National Defense Authorization Act
O&M	Operations and Maintenance
OASD(HA)	Office of the Assistant Secretary of Defense for Health Affairs
OCO	Overseas Contingency Operations
OCONUS	Outside the Continental United States
OHI	Other Health Insurance
OOP	Out-of-Pocket
OPM	Office of Personnel Management
OPPS	Outpatient Prospective Payment Systems
PB	President's Budget
PC	Population Composition
PC	Premium Contribution
PC	Purchased Care
PCF	Population Composition Factor
PCM	Primary Care Manager
PCS	Permanent Change of Station
PE	Practice Expense

PPO	Preferred Provider Organization
PRS	Population Risk Scoring
RET	Non-Medicare-Eligible Retiree
RMC	Regular Military Compensation
RS-PCF	Risk Score-Based Factor
RVU	Relative Value Unit
RWP	Relative Weighted Products
S/E	Standard/Extra
T4	Fourth Generation
TDP	TRICARE Dental Program
TFL	TRICARE for Life
TFL DEP	Non-Medicare Eligible Dependents of Medicare Eligible Retirees
TRDP	TRICARE Retiree Dental Program
TYA	TRICARE Young Adult
UMP	Unified Medical Program
USFHP	Uniformed Services Family Health Plan
VA	Department of Veteran Affairs



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